GENERAL INDEX.

Illustrated Subjects are Marked with an Asterisk after the Number of the Page.

A.

" ABRASAW " for Cutting Non-Metallic Materials, 20
Abstracting, Indexing and Bibliographies, Current Practice, 247
Accidents :
Fractures in Welded Ships, Investigation on, 423, 509, 549
Sun Bank Railway Accident, Llangollen, Report on, 177*
"Achates," H.M. Destroyer, Torpedo Damage to, 405*
Ackeret, Prof. J., on 2,000-kW Hot-Air Turbine Power Plant, 1*, 25*, 49*
Address, Presidential. See *Presidential Address*
Adhesion Tests, White-Metal Lined Cast-Iron Bearings, 550
Admiralty. See *Warships*
Aerial Navigation. See *Aeronautics*
— Propellers. See *Propellers* under *Aeronautics*
— for Radar, 319
— Transport. See *Aeronautics*
Aerodynamics. See *Aeronautics*
Aeronautical Society, Royal, 80th Anniversary Dinner, 63. See 61, 120; Resumption of Activities of Hatfield Branch, 456; Wright Lecture on Recent Aerodynamic Developments, by E. F. Relf, 541. See *Erratum*, 587
Aeronautics :
Aerial Photographic Reconnaissance and Invasion of England, 568, 580
Aerodromes, Fog Dispersal at, 33, 246
— Heathrow, London, Progress at, 303
— Lighting of, 501
Aerodynamics and Supersonic Air Flow, 207, 325, 329
Aeronautical Collection, Science Museum, Re-opening of, 345
— Progress and Royal Aeronautical Society, 61, 63, 120
Aeroplane, Bombing, " Lincoln " (A. V. Roe & Co., Ltd.), 224*
— — " Spearfish " (Fairey Aviation Co., Ltd.), 583*
— Fighter, " Firefly " (Fairey Aviation Co., Ltd.), 583*
— " Gemini " (Miles Aircraft Co., Ltd.) 174*
— Landing Wheels, Single-Disc Brake for, 608*
— Military, " Buckingham," " Brigand" and " Buckmaster " (Bristol Aeroplane Co., Ltd.), 392*
— Production and Development, 77
Air Ministry and Whittle Jet-Propulsion Gas Turbine, 212*, 237*, 261*. See *Erratum*, 239
Air Port, Fog Dispersal at, 33, 246
— — Heathrow, London, Progress at, 303
— — Lighting of, 501
— Raid Damage to Electricity Undertakings, 57
— Transport in South America, 342
Aircraft, British, Gun Turrets for (Boulton Paul Aircraft, Ltd.), 18
— Carrier, H.M.S. " Eagle," Launch of, 279
— Evolution and Application of Radar, 307, 319, 367, 389
— Flexible Fuel Cells for (Imperial Chemical Industries, Ltd.), 584*
— Industry, Position and Prospects, 77
— Landing Wheels, Single-Disc Brake for, 608*
— Production in France (Review), 437
— and Shipping, British Corporation Register of, Work of, 231; Failure of Negotiations to Unite with Lloyd's Register, 414
— Torpedo, Development of, 121*
— Use of High-Pressure Gear Pumps in, 183, 185, 208, 284*, 310*, 334*. See LETTER, 232
— Whittle Jet-Propulsion Gas Turbine for, 212*, 237*, 261*. See *Erratum*, 239
" Brigand " Attack Monoplane, 392*
" Buckingham " Bombing Aeroplane, 392*
" Buckmaster " Training Aeroplane, 392*
Cells, Fuel, Flexible, for Aircraft (Imperial Chemical Industries, Ltd.), 584*
Civil Aviation, Aircraft for, 78
— — and Jet Propulsion, 421
— — Ministry of, London Air Port, Heathrow, 303
Drag Reduction in Aeroplanes, 541. See *Erratum*, 587
" Eagle," H.M. Aircraft Carrier, Launch of, 279
Engine, Aeroplane, 12-Cylinder " Griffon " (Rolls-Royce Ltd.), 128*
— — High-Duty, Problems in Development of, 16
— — Jet, and Commercial Flight, 421
— — Jet, Effect of Supersonic Flight, 542. See *Erratum*, 587
— — Jet-Propulsion " Goblin " (de Havilland Aircraft Co., Ltd.), 175*

Aeronautics—*continued.*
Engine, Aeroplane, Jet-Propulsion, Whittle, 212*, 237*, 261*. See *Erratum*, 239
— — " Merlin 130 and 131 " (Rolls-Royce Ltd.), 465*
— — " Merlin," Gravity Die Castings in, 45*
— — Fiston-Ring Wall Thrust in, Measurement of, 94*
— — " Sabre " (D. Napier & Son, Ltd.), 79*
— — See also *Gas Turbine* (below)
" Firefly 1V " Fighter-Reconnaissance Aeroplane, 583*
Fog Dispersal Equipment at Aerodromes, 33, 246
Gas-Turbine Driven Aerial Propeller (Bristol Aeroplane Co., Ltd.), 56*
— — and Jet Propulsion, Researches on, 22*
— — Whittle Jet-Propulsion, 212*, 237*, 261*. See *Erratum*, 239
— — See also *Engine, Aeroplane* (above)
" Gemini " Aeroplane, 174
" Goblin " Jet-Propulsion Engine, 175*
" Griffon " Aero Engine, 128*
Helicopter Society of Great Britain, Luncheon, 279
Landing Aids Experiment Station, California, Fog-Dispersal Experiments at, 246
" Lincoln " Bomber, 224*
" Merlin 130 and 131 " Aero Engines, 465*; Gravity Die Castings in, 45*
Propeller, Aerial, Gas-Turbine Driven (Bristol Aeroplane Co., Ltd.), 56*
Royal Aircraft Establishment, Metallurgical Division Exhibition, 236
" Sabre " Aero Engine, 79
" Spearfish " Torpedo Dive-Bombing Aeroplane, 583*
Supersonic Flight, Effect on Jet Engine, 542. See *Erratum*, 587
Whittle Jet-Propulsion Gas Turbine, 212*, 237*, 261*. See *Erratum*, 239
Wind-Tunnel Experiments on Flow of Gases at Supersonic Speeds, 207, 325, 329
— — Supersonic, Kochel, Transfer to United States, 7
— — Supersonic, at National Physical Laboratory, 591
Wings, Aeroplane, Research on, 541. See *Erratum*, 587
See also PARAGRAPH INDEX
Aeroplanes. See *Aeronautics*
Agricultural Drainage, Trenching Machine for (Aveling-Barford, Ltd.), 127*
— Education, Higher, Report of Committee, 494
— Engineering, National Institute of, Tests of Pneumatic Tyres for Farm Tractors, by J. S. Wilson and H. J. Hamblin, 201
— Machinery Industry, Position and Prospects, 172
— Tractors. See *Tractors*
Agriculture, Highland, Electrification of, Report, 469
— in Ontario, Electricity Supply for, 38
— See also *Irrigation* and PARAGRAPH INDEX
Air Blower, Twin Scavenging, for 375-b.h.p. Petters Marine Oil Engine, 369*
— Conditioning in Textile Factories, Research on, 21*
— Compressed. See *Compressed Air*
— Compressor for 2,000-kW Hot-Air Turbine Power Plant, 4*, 25*
— — See also *Gas Compressor*
— Heater for 2,000-kW Hot-Air Turbine Power Plant, 4*
— Ministry. See *Aeronautics*
— Pollution. See *Atmospheric Pollution*
— Pump. See *Pump*
— Raids. See *Aeronautics*
— Screws. See *Propellers* under *Aeronautics*
— See also *Atmosphere*
Aircraft Carriers. See *Aeronautics*
— Establishment, Royal. See *Aeronautics*
— See *Aeronautics*
Akaba Canal Project, 205. See LETTER, 400
Alar, Ltd., Formation of, 55, 587
Alaska Highway, Acquisition by Canada, 594
Allen, W., on Daylight and Town Planning, 501
Allen, W. H., Sons & Co., Ltd., Pumping Plant for Rand Water Board, 152*
Allis-Chalmers Co., 44,000-h.p. Kaplan Turbines, 387*, 433
Allowances in Machine Work. See *Gauges*
Alloys. See *Metallurgy; Microphotographs;* PARAGRAPH INDEX
Alternating Stress. See *Fatigue* under *Tests* (*Materials*)
Alternators. See *Generators, Electric; Turbo-Generators*
Aluminium Alloys. See *Alloys* under *Metallurgy*
Aluminium Co. of South Africa Pty., Ltd., Incorporation of, 44
— Development Association, Manufacture and Production of Aluminium-Alloy Forgings and Stampings, by J. R. Handforth and J. T. Robinson, 138; Deep-Drawing and Pressing of Aluminium Alloys, 261
Aluminium Production and Imports, United Kingdom, 77
— — Plants in United States, 246
— Secondary, Development Organisation, Formation of Alar, Ltd., 55, 587
America. See *North America; South America; United States; Central America*
American Navy. See *United States* under *Warships*
— Society of Mechanical Engineers. See *Mechanical Engineers*
— — for Testing Materials. See *Testing*
— Technical Bibliographies, 247
— See also *United States*
Analysis, Mechanical, of Portland Cements, 457*, 483*. See *Erratum*, 496
— Polarographic and Spectrographic, of High-Purity Zinc and Zinc Alloys, Specification, 130
— Screen, of Coal, Specification, 514
Andes, Tunnel Through, Transandine Railway, 342
Angles, Pipe-Bend, Formulæ for Calculation of, 507*
Angles, R. M., on Corrosion-Resistance of Electro-deposited Tin-Zinc Alloys, 289*; on Method of Electrodepositing Tin-Zinc Alloys, 427
Angiometer, Taper-Checking (Precision Grinding, Ltd.), 113*
Annuals and Reference Books, 18, 71, 139, 264, 408, 432, 490, 576. See LITERATURE INDEX
Apparatus, Electrical, Exports and Imports, 149
— Gas Extraction, for Study of Magnesium Alloys, 305, 428*, 438
— Measuring, for Damping Capacity of Metals, 280, 358*
— Scientific, Exhibition, Physical Society's, 15, 40*, 89*, 114*
— — Export Trade in, 592
— — at North-East Coast Exhibition, 39, 107
Appleton, Sir E. V., Award of Faraday Medal to, 87, 423; on Extratropospheric Influences in Radar Operation, 319; Award of Trasenster Medal to, 346
Appointments. See PARAGRAPH INDEX
Apprenticeship. See *Education*
Apron, Spillway, Kentucky Dam, 387*
Aquasabon River, Hydro-Electric Scheme, 594
Arc. See *Furnace; Welding*
Arcata, California, Fog-Dispersal Experiments at, 246
Arch Design Simplified (Review), 316
Architects, Naval. See *Naval Architects*
Arctic Region, Meteorological Observations in, 330
Argentina, Engineering Notes from, 29, 161, 270, 342, 427, 534
Armament. See *Guns; Warships*
Armoured Ships. See *Warships*
Army, Applications of Radar in, 307, 389
— Royal Engineers Transportation Training Centre, Longmoor, 535*
Arnold, Prof. R. N., on Dynamical Balancing of Rotors by Mechanical Resonance, 481*, 529*; on Mechanics of Cutting Operation, 574*. See 544, 569, 593, 617
Arts, Royal Society of, Emergency Construction as Applied to Docks and Floating Structures during the War, by G. A. Maunsell, 231; Cast Iron in Contemporary Building and Engineering, by J. G. Pearce, 351; Jet Propulsion, by Major F. B. Halford, 421
Arterial Roads. See *Roads*
Asbestos-Cement Pipes, Specification, 34
— — Slates and Sheets, Specification, 10
Ash-Handling Plant, Hams Hall " B " Power Station, 98*
Ashworth, F., on Silicon-Carbide Resistors, 295
Asphalt, Specification, 442
Associated British Oil Engines, Ltd., 3-h.p. Single-Cylinder Marine Petrol Engine, 537*; 12-h.p. Opposed-Piston Marine Oil Engine, 537*
Association, British. See *British Association*
— Engineering. See *Institutions*
Atmospheric Pollution and Domestic Fires, 140, 157
— — in Leicester, Report on, 157
" Atom " Semi-Crawler Tractor, 19*. See *Erratum*, 35
Atomic Energy Bill, 471
— — Industrial Application of, 327
— — Production of, 75*, 100
— Physics and Strength of Metals, 519, 558*
Attwood, J. E., on Tool Materials, 596. See 569, 593
Australia, Reclamation of War Equipment, 138
Australian Department of Munitions, Investigation on Cutting Fluids, 570
Autogenous Welding. See *Welding*
Automatic Machine Tools. See *Machine Tools*
— Stokers. See *Stokers*
Automobile Engineers, Institution of, Report of Research Committee, 5; Problems in Successful Development of High-Duty Engine, by A. Toole, 16; Research Department, Gear-Lubricant Testing Machine, 114; Amalgamation with Institution of Mechanical Engineers, 183. See 253. See LETTERS, 280, 304, 328, 352, 424; 40th Anniversary Celebration, 533; Award of Institution Medal to Prof. E. Giffen, 615; Transfer of Research Laboratory to Motor Industry Research Association, 615
— See *Motor Cars*
Auxiliary Machinery, Marine. See *Marine*
Aveling-Barford, Ltd., Trenching Machine for Agricultural Drainage, 127*
Aviation. See *Aeronautics*
Ayliffe, Dr. S. H., on Processes for Altering Ship's Magnetisation, 343
Ayre, Sir A. L., on Admiralty Ship Welding Committee, 509, 549. See 425

B.

BABCOCK & WILCOX, LTD., Water-Tube Boiler Construction by, 271*; Johnson Boiler for S.S. " Beaverdell," 511*
Bacon, J. E., on Market for Household Appliances, 136. See 85
Baird, J. L., the Late, 592
Bakelite, Ltd., Bakelite Laminated-Sheet Production, 248*
Baker, G. M., on Effect of Machinability on Heavy Engineering Production, 605. See 569, 593
Balancing, Dynamical, of Rotors, by Mechanical Resonance, 481*, 529*
Ball Bearings. See *Bearings*
Ballistics, Application of Supersonic Air Flow to, 207, 325, 329
Bars, Carbon-Steel, Specification, 274
Barclay, Dr. S. F., on Theory of Lock Nuts, 112. See LETTERS, 16, 39, 161
Barrell, H., on Measurements of Standards of Lengths, 401
Bartlett, C., on War-Time Repairs to Merchant Ships, 159, 477*, 502*
Bartlett, J. G., on Cathode-Ray Tubes in Radar, 319
Barton, C. H., on Testing of Transformer Oils, 380
Bassett, G. A., on War-Time Repairs to H.M. Ships, 405*, 414, 437. See 353, 402
Battersea Power Station Extension, 17, 42
Battleships. See *Warships*
Bavaria, Kochel Supersonic Wind Tunnel, Transfer to United States, 7
Beacham, T. E., on High-Pressure Gear Pumps, 284*, 310*, 334*. See 183, 185, 208. See LETTER, 232
Beams, Reinforced-Concrete, for Railway Bridge over River Eden, 556*
Bearings, Ball, Manufacture of, Effect of Allied Air Attacks on German Factories, 613
— for High-Pressure Gear Pumps, 183, 185, 208, 284*, 310*, 334*. See LETTER, 232
— for Motor-Car Engines, Researches on, 5
— Small, Bi-Metallic Bushes for (Glacier Metal Co., Ltd.), 585
— Thrust, for Marine and Land Use (Jaru, Ltd.), 607
— White-Metal, Tinning of Cast-Iron Shells of, 550*
Beaver, S. H., on Derelict Land in Black Country, 301
" Beaverdell," S.S., Turbo-Electric Plant, 511*
Begg, G. A. J., on Operating Experience with La Mont Boilers, 87
Bell, Lieut.-Comdr. A. C., on Photographic Reconnaissance and Invasion of England, 568, 580
Bellows, Metallic, Use in Thermostats, 413
Bending Tests. See *Tests* (*Materials*)
Bent, R. H., Segmental Ash-Plate for Chain-Grate Stokers, 294*
Berry, H., on Town Planning and Water Supply, 495
Berwick and Edinburgh Railway, Centenary of Opening, 566, 567
Bessemer Medal, Award to J. S. Hollings, 424
Betatron, 200-Million Volt (Metropolitan-Vickers Electrical Co., Ltd.), 583
Bethel, Commdr. P., on Development of Torpedoes, 73*, 121*, 169*, 242
Bibliography, Engineering, Present State, 247
Bicycles. See *Cycles* and *Motor Cycles*
Billig, Dr. E., on Mechanical Stresses in Transformer Windings, 9
Bi-Metallic Strips for Thermostats, Construction of, 391
Binary Alloys. See *Alloys* under *Metallurgy*
Binley Colliery, Fluorescent Lighting in, 522
Binnie, A. M., on Effect of Obstructions in Tidal Estuaries, 241*
Birkin, Lieut. N., on Pay of Skilled Tradesmen, 64. See LETTER, 17
Birmingham, Hams Hall " B " Power Station, 97*
Bitumen Mixture for Flooring, Specification 490
Black, A. N., on Significance of Difference in Test Results, 16. See LETTERS, 496, 568
Blading, Turbine, Stainless Steel for, 16. See LETTERS, 64, 112, 401
— for Whittle Jet-Propulsion Gas Turbine, 212*, 237*, 261*
Blee, C. E., Kentucky Dam Scheme, 337*, 385*, 433*
Blowers, H. G., Segmental Ash-Plate for Chain-Grate Stokers, 294*

Blower, Air, Twin-Scavenging, for 375-b.h.p. Petters Marine Oil Engine, 369*
Board of Trade and Emergency Legislation, 772
— — See also *Overseas Trade Department*
Boilers, Domestic, Hot-Water, Specification, 202
— Feed Water. See *Feed*
— Foster-Wheeler, for 2,500-kW Transportable Power Station, 463*
— Furnaces. See *Stoker*
— La Mont, Development and Performance, 87
— Locomotive, Heat Transfer in, 493
— Marine, for Canadian-Built Ships, 487, 520
— Plant, Battersea Power Station, 17, 42
— — for District Heating, 140
— — Hams Hall "B" Power Station, 97*
— Super-Economic, Adaptation for Peat-Fuel Burning, 223
— Water-Tube, Babcock & Wilcox, Construction of, 271*
— — Tube, Foster-Wheeler, S.S. "Orcades," 130
— — Tube, Johnson, S.S. "Beaverdell," 511*
— See also *Engines and Boilers* in PARAGRAPH INDEX
Bolivia, Engineering Notes from, 161, 534
Bolts, Load Due to Tightening Nut, 409*
— and Nuts, Theory of Locking, 16. See LETTERS, 39, 112, 161
Bombing Aeroplane. See *Aeroplane* under *Aeronautics*
Bond, R. C., on 4-6-2 Non-Condensing Turbine Locomotive, 109. See LETTER, 259
Books, New, Notes on, 78, 144, 151, 235, 260, 282, 390, 528, 547. See LITERATURE INDEX
— Received, 10, 34, 58, 82, 106, 130, 154, 178, 202, 226, 250, 274, 298, 322, 346, 370, 394, 418, 442, 466, 490, 514, 538, 562, 586, 610
Booker, Dr. H. G., on Elements of Radio Meteorology, 319
Booth, Lieut. C. H., on Standardisation of Tools for Machinability Tests, 595. See 544, 569, 617
Boring Machine. See *Machine Tools*
Boulton Paul Aircraft, Ltd., Gun Turrets for Aircraft, 18
Boulton and Watt Steam Engine, Valve Gear, 619*. See 510, 518
Bowman, B., on Training of Road Transport Engineers, 39
Boyd, G. M., on Admiralty Ship Welding Committee, 509, 549. See 425
Bradfield, G., on Cathode-Ray Tubes in Radar, 319
Braithwaite & Co. (Engineers), Ltd., Steel-Frame System of House Construction, 332
Brake, Single-Disc, for Aircraft Landing Wheels, 608*
Brasses, Machinability of, 573, 599*, 605
Brazil, Engineering Notes from, 29, 161, 270, 342, 427, 534
Breakdowns. See *Accidents*
Bren-Gun Carriers, Utilisation on Farms, 138
Brennan Torpedo, History of, 242
Bricks, Clay, Engineering, Specification, 442
Brickwork, Specification, 562
Bridge Design and Construction, Memorandum on (Review), 580
— Illinois Central Railroad, at Kentucky Dam, 339*
— Railway, Reinforced-Concrete, over River Eden, 555*
— Road, Firth of Forth, 293
— Reconstruction, Gloucester-Cheltenham Railway, 30*
— Scheme, River Severn, 293
— See also PARAGRAPH INDEX
Bridging School, Royal Engineers Transportation Training Centre, 535*
"Brigand" Attack Monoplane, 392*
Briggs, R. H., the Late, 39
Bristol Aeroplane Co., Ltd., Gas-Turbine Driven Airscrew, 56*; "Buckingham," "Brigand" and "Buckmaster" Aeroplanes, 392*; Investigation on Loads on Bolts, 409*
— University, Investigation on Loads on Bolts, 409*
British Association, Programme of Meetings, 519
— Cast Iron Research Association, Report on Single-Blow Impact Test for Cast Iron, 117*
— Chemical Plant Manufacturers' Association, Luncheon, 544
— Columbia, Electricity Supply in, 134
— Corporation Register of Shipping and Aircraft, Work of, 231; Failure of Negotiations to Unite with Lloyd's Register, 414
— Economy in Post-War World, 136
— Electrical and Allied Industries Research Association, Report on Relation between Daylight Illumination and System Load, by P. Schiller, 158; Annual Luncheon, 159; Annual Report, 187; Report on Transient Warming of Rooms, by M. V. Griffith, 326; Report on Characteristics of Domestic Load, by P. Schiller, 398; Report on Electrification of Highland Agriculture, by C. A. C. Brown, 469
— — and Allied Manufacturers' Association, Annual Report, 399; Report on Rating of Resistance Welding Machines, 519
— Engineers Association, Report on Control of German Industry and Patents, 229; Report on Exports, 542; Visit of French Industrialists to, 615
— Foundrymen, Institute of, Birmingham Conference Programme, 489.
— Industries, Federation of. *See Federation*
British Insulated Callender's Cables, Ltd., 10,000-Megacycle Wave-Guide Bench, 114*
— Iron and Steel Federation, Report on Modernisation Proposals, 446, 471
— Navy. See *H.M.* under *Warships*
— Non-Ferrous Metals Research Association. Investigation on Reaction of Aluminium-Magnesium Alloy with Water Vapour, by R. Eborall and Dr. C. E. Ransley, 305, 428*, 438
British Oil Engines (Export), Ltd., 375-b.h.p. Oil Engines for H.M. Minesweepers, 369*
British Physical Laboratories, Ltd., Universal Impedance Bridge, 90
British Railways. See *Railways*
— Refrigeration Association, Annual Luncheon, 183
— Scientific Manufacturers' Association, Stockholm Exhibition, 227, 591
— Shipbuilding. See *Shipbuilding*
— Shipping. See *Shipping*
— Standards Institution. See *Standards*
British Steel Houses, Ltd., House Construction, 332
— Technical Bibliographies, 247
— Thermal Unit Meter, Distant-Reading (Elliott Brothers (London), Ltd.), 91*
British Thermostat Co., Ltd., History of, 413
British Thomson-Houston Co., Ltd., Transportable Metal-Clad Switchgear, 91*; Plant Constructed in 1945, 124; Whittle Jet-Propulsion Gas Turbine, 213*, 237*, 261*. See *Erratum*, 239; Flameproof Switchgear for Mines, 317*; War Work by, 447; Jubilee of, 495; Fluorescent Lighting at Binley Colliery, 522
— Trade. See *Trade*
— Welding Research Association, Constitution of Council, 471
Britton, G. P., on New Dielectrics in Radio Engineering, 571
Bronx Engineering Co., Ltd., Bar- and Tube-Straightening Machine, 355*
Bronze, Malleable, Investigations on, 285
— Phosphorus, Chill-Cast, Mechanical Properties of, 153
Brookside Engineers, Ltd., Air-Operated Inspection Gauge, 65*
Brown, Boveri & Co., Ltd., Engineering Developments by, 495; 2,200 h.p. Electric Motors, 536*
Brown, C. A. C., on Electrification of Highland Agriculture, 469
Brown, D., & Sons (Huddersfield), Ltd., Synchronous Drive for Carding Machines, 368*
Bruce, A. K., on N. L. S. Carnot, 160
Bruff, H. J. L., the Late, 185
Brush Electrical Engineering Co., Ltd., Electric Generators for Horseferry-road Citadel, 92
"Buckingham" Bombing Aeroplane, 392*
Buckling Strength of Members and Structures (Review), 292
"Buckmaster" Training Aeroplane, 392*
Building, Cast-Iron in (Review), 5
— Component Producers Association, Ltd., Domestic Heating and Cooking Unit, 332
— Construction, "Consiab" System of, 201*
— — See also *Concrete, Reinforced* and PARAGRAPH INDEX
— Electrical Equipment of, Regulations for, 207
— Painting of, Specification, 538
— Protection against Lightning, 127
— Soot Doors for, Specification, 490
Bull, F. B., on Instruments for Measurement of Strains in Ships, 425
Bureau of Mines. See *United States*
Burmeister and Wain Oil Engine, Development of, 356
Burne, E. L., the Late, 592
Burners for Flame Throwers, Researches on, 23
Bushes, Bi-metallic, for Small Bearings (Glacier Metal Co., Ltd.), 585
Bushrod, C. J., on Influence of Surface Preparation on Corrosion of Magnesium Alloys, 305
Business and University Education, Report, 37
Butchers, Dr. E., on Magnesium-Silver-Lithium Alloys, 305
Butement, W. A. S., on Precision Radar, 367

C.

CABLE & WIRELESS, LTD., Bill for Acquisition by Government, 423; Luncheon to Imperial Press Conference, 567
— See also *Wire Ropes* and *Electric*
Cadmium Coatings, Electrodeposited, Corrosion Tests of, 289*
— Radiation as Standard for Measurement of Length, 401
Calderwood, J., on French Diesel-Electric Locomotives, 161
Calliper Gauge, Dial-Reading (Newall Engineering Co., Ltd.), 68*
Calorific Value of Peat Fuel, 223
Calver, C. M. G., Ltd., Universal Vibrating Machine, 65*; Indexing Collet Chuck, 67*; Electric Tool Furnace, 500*
Cam-Measuring Machine (Precision Grinding, Ltd.), 113*
Cambridge Instrument Co., Ltd., Marine Temperature Indicator, 40*; Gas Regulator, 40*; Electric Micrometer Thickness Gauge, 40*
— University Appointments Board, Report on University Education and Business, 37
Campbell, A., the Late, 280
Campbell, I. D., on Amalgamation of Institutions of Mechanical and Automobile Engineers, 280. See 183, 253. See LETTERS, 304, 328, 352, 424
Camshaft Housing for "Liberty" Engine, Gravity Die-Casting for, 47*
Canada, Electricity Supply in, 134
— Engineering Institute of, Visit of President of Institution of Electrical Engineers, 111; 60th Annual Meeting, Montreal, 255
— — Notes from, 246, 594
— Merchant Shipbuilding in, 461, 487, 520, 525
— Navigation on Columbia River, 590
— Ontario Rural Electric Service, 38
— St. Lawrence River Waterway and Power Scheme, 330
— Visit of President of Institution of Electrical Engineers to, 111
Canadian Pacific Steamships, Ltd., S.S. "Beaverdell," 511*
Canal, Ellesmere, Failure of Bank of, 177*
— Project, Akaba, 205. See LETTER, 400
— St. Lawrence River Project, 330
— See also PARAGRAPH INDEX
Capacity. See *Electric*
Capstan Lathe. See *Lathe* under *Machine Tools*
Cars, Motor. See *Motor Cars*
Carbide of Silicon for Resistors, Properties, 295
Carburettor, S.U., Gravity Die-Castings for, 47*
Carburisation. See *Heat Treatment* under *Metallurgy*
Cardiff, Welsh Industries Fair, 581, 607
Cardiff Machine, Synchronous Drive for (D. Brown & Sons (Huddersfield), Ltd.), 368*
Cardiograph, Electric (Clifton Instruments, Ltd.), 89
Cargo Steamers. See *Steamers*
Carlisle-Kingsmoor Railway Widening, 555*
"Carnarvon," H.M. Cruiser, in 1908, 17
Carnot, N. L. S., Life and Work of, 160
Carriage, Railway, Experimental, London Passenger Transport Board, 116*
Carter, W. A., on Cutting Fluids and Chip-breakers, 582. See 569, 593, 617
Case Hardening. See *Heat Treatment* under *Metallurgy*
Cast Iron in Building (Review), 5
— — Modern Uses of, 351
— — Research Association, British, Report on Single-Blow Impact Test for Cast Iron, 117*
— — Tinning of, Research on Methods, 285, 526*, 550*
Castings, Magnesium-Alloy, Specification, 250
— — Grinding of, Regulations for, 30
Castle Meads Power Station, Gloucester, Segmental Ash-Plate for Chain-Grate Stokers, 294*
Caterpillar Tractor. See *Tractor*
Cathode-Ray Oscillographs (Mullard Wireless Service Co., Ltd.), 90
— — Tubes for Radar, 307, 319, 367
"Cegos," French Industrial Research Organisation, Visit to England, 615
Cement, Portland, Mechanical Analysis of, 457*, 483*. See *Erratum*, 496
— See also *Concrete* and PARAGRAPH INDEX
Centenaries, Engineering, in 1946, 15
Centenary of North British Railway, 566, 567
Central America, Engineering Notes from, 270
— Electricity Board, National Pool of Spare Electrical Equipment, 57*; Annual Report, 373, 399, 615
— Statistical Office, Monthly Digest of Statistics, 230
Centrifugal Pumps. See *Pumps*
Chance Brothers, Ltd., Marine Electric Port Light, 40
Channel, Solution, at Kentucky Dam, Treatment of, 435*
Chatfield, Lord, on Shipbuilding Industry, 353. See 349
Chatham Dockyard, Demolition of 130-ton Sheers, 321*
Cheltenham-Gloucester Railway Widening, 30*
Chemical Engineers, Institution of, Annual Luncheon, 375; Establishment of Bursaries in Chemical Engineering, 611
— Research Exhibition, Imperial Chemical Industries, Ltd., 443, 536
Chemists, British Association of, Glass Tubing, by R. E. Threlfall, 222
Chemistry, Applied, Thorpe's Dictionary of, Vol. VIII (Review), 460
— of Corrosion. See *Corrosion*
— See also PARAGRAPH INDEX
Chile, Engineering Notes from, 29, 161, 270, 342, 534
China, United States Electric Power Plants for, 594
— Yangtze River Development and Regulation Scheme, 7, 303
Chinese Naval Colleges, History of, 601*
— Revolution of 1911, Effect on Hong Kong, 578, 601
— as Workmen, 579
Chuck. See *Machine Tools*
Cinematograph Films, Industrial, Need for Lists of, 496
— — of Lord Kelvin's Career, 501
— — of Water-Tube Boiler Construction (Babcock & Wilcox, Ltd.), 271*
Civil Aviation. See *Aeronautics*
— Engineers Data Book on Design (Review), 219

Civil Engineers, Institution of:
Election of Members, 10, 82, 106, 154, 178, 322, 346, 466
Contract Form for Civil Engineering Work, 351, 374
Award of Ewing Medal to Prof. R. V. Southwell, 399
Civil Engineering as a Career (Review), 340
— — Contractors, Federation of, Contract Form for Civil Engineering Work, 351, 374
Claremont, Haynes & Co., Amalgamation of Institutions of Mechanical and Automobile Engineers, 328. See 183, 253. See LETTERS, 280, 304, 352, 424
Clark, G. M., the Late, 136
Clay Engineering Bricks, Specification, 442
— Fire. See *Fireclay*
— Foundations and Soil Mechanics, 313*. See *Errata*, 346
— Tiles for Flooring, Specification, 394
Clayton Lecture on Whittle Jet-Propulsion Gas Turbine, 212*, 237*, 261*. See *Erratum*, 239
Cleveland and the Northern Counties, Notes from, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611. See PARAGRAPH INDEX
Clifton Instruments, Ltd., Portable Electrocardiograph, 89
Climate. See *Meteorology*
Coaches, Railway. See *Carriages*
Coal Consumption in Engineering Industry, 27
— Cutting Machines, Use of, 162, 175
— Economy and District Heating, 140
— — in Iron and Steel Works, 448, 472
— — See also *Fuel Economy*
— Gas. See *Gas*
— Handling Plant, Hams Hall "B" Power Station, 97*
— Hydrogenation of, Work in United States, 422
— Industry, Output Statistics, 424
— Locomotive, Unsatisfactory, Effect on Railway Traffic, 470
— Low-Grade, Utilisation of, Report on, 133. See LETTER, 304
Coal Mine. See *Colliery*
— Mining Industry, Plans for Recruitment, Education and Training in (Review), 554
— Processing Panel, Northern Industrial Group, Report of, 62
— Production, Electrical Aids to, 226
— Pulverised. See *Pulverised Coal*
— Screen Analysis of, Specification, 514
— Stocks for Electricity Supply, Shortage of, 373, 615
— See also PARAGRAPH INDEX
Coates, R. H., on Deformation of Alternator-Rotor Windings, 14
Coating, Tin, on Cast Iron, Methods, 526*, 550*
— — Research on Methods, 285
— — Zinc, Electrodeposited, Corrosion Tests of, 289*
— — Zinc, Method of Depositing, 427
Cofferdam, Cellular, Kentucky Dam Construction, 434*
Coker, Prof. E. G., the Late, 376
Cold Storage. See *Refrigeration*
College. See *Education*
Colliery, Binley, Fluorescent Lighting in, 522
— Electrically-Driven Plant for, 226
— Flameproof Switchgear for (British Thomson-Houston Co., Ltd.), 317*
— Lighting Exhibition, 163
— Machinery for, Provision of, 293
— Mechanisation, War-Time Development in, 162, 175
— North-East Coast, Electricity Supply to, 270
— Underground Haulage Methods for Mining Engineers, Modern, Manual of (Review), 52
— Utilisation of Low-Grade Fuels in, 133. See LETTER, 304
— See also *Mines* and *Coal*
Colombia, Engineering Notes from, 161, 342
Columbia River, Navigation on, 590
Combustion Chamber for Whittle Jet Propulsion Gas Turbine, 213*, 237*, 261*
— See also *Fuel; Gases*
Commerce. See *Trade*. See also *Industries and Commerce* in PARAGRAPH INDEX
Commercial Aviation. See *Aeronautics*
— Motor Cars. See *Motor*
Commonwealth Telecommunications, Government Policy on, 423. See 567
— See also *Australia*
Companies. See PARAGRAPH INDEX
Comparator, Direct and Alternating Current, (Elliott Brothers (London), Ltd.), 91*
— Impedance (Standard Telephones & Cables, Ltd.), 115*
— Mechanical (Sigma Manufacturing Co., Ltd.) 414*
— Screw Thread, Double-Anvil (A. Herbert, Ltd.), 81, 222*
Compass, Magnetic, Correction for Effect of Degaussing, 343
Compressed-Air Storage Vessels for 2,000-kW Hot-Air Turbine Power Plant, 4*
— — Use in Damaged Merchant Ships, 478*
— Gas Cylinders. See *Gas*
Compressor, Air. See *Air Compressor*
Concrete Floating Dry Docks for United States Navy, 145, 265*
— House Construction, Examples of, 332
— Reinforced, Floating Dry Docks for United States Navy, 145, 265*
— — Floating Docks, Construction of, 231
— — Railway Bridge Over River Eden, 555*
— — Reinforcement Steel Engineers' Association, Formation of, 514
— See also PARAGRAPH INDEX
Concreting Plant, Kentucky Dam, 385*
Condenser, Surface, Heat Transfer Coefficients in, 505*
— Water Temperature, Effect on Sludging Value of Transformer Oils, 380
Condensing Plant for 2,500-kW Transportable Power Station, 463*
Conductivity. See *Electric*
Conference on Creep of Metals, 233*, 258*
— on Industry and Research, 281, 327
— International, on Large High-Tension Networks, Paris Meeting, 231
— on Machinability. See *Mechanical Engineers, Institution of*
— Scientific, Empire, London, 589, 614
— on Waste-Heat Recovery, Programme, 342
Conservation of Coal. See *Coal; Fuel*
"Consiab" System of Building Construction, 201*
Constructional Engineering Industry, Position and Prospects, 292
— Work for British Railways, 278. See LETTER, 328
Consulting Engineers, Association of, Annual Luncheon, 543
Containers, Refrigerated, for Meat Transport in Tropics, 453*
Contract Form for Civil Engineering Work, 351, 374
— and Specifications, Engineering (Review), 147
Control Board for Diesel Electric Plant, M.S. "Vecta," 345*
— Gear, Turbo-Electric Cargo Ship, S.S. "Beaverdell," 511*
— — for Turbo-Electric Ship Propulsion, 142, 166*
— Orders, Ministry of Supply. See *Industries and Commerce* in PARAGRAPH INDEX
— of Quality, Society for, Formation in United States, 95
— Room, Hams Hall "B" Power Station, 99*
— System, Kentucky Dam Hydro-Electric Scheme, 433
Convention, Radiolocation. See *Electrical Engineers, Institution of*
Cook, Dr. M., on Computations in Metal Strip Rolling, 281
Cooke & Ferguson, Ltd., 33-kV Low Oil-Content Circuit Breaker, 282*
Cooke, G., on Operating Experience with La Mont Boilers, 87
Cookers, Solid-Fuel, Specification, 490
Cooking and Heating Unit, Domestic (Building Component Producers Association, Ltd.), 332
Cooling Towers, Hams Hall "B" Power Station, 98*

Cope, F. W., on Flow of Gases at Supersonic Speeds, 207, 325, 329
Copper Alloys. See *Brass; Bronze;* and *Alloys* under *Metallurgy*
— Damping Capacity and Fatigue of, 381*
— Development Association, Annual Report, 132
— For Use of Services, Specification, 10
— See also *Metallurgy*
Cores for Gravity Die-Casting, 45
Cornish Engine Preservation Society, Visit to Kew Bridge Pumping Station, 518; How Cornish Engines Came to London, by Dr. H. W. Dickinson, 510. See *Errata*, 619. See 518, 619*
Corrosion of Aluminium-Copper Alloy by Sodium Chloride, 280
— Films on Magnesium Alloy, Effect on Gas Content, 305, 428, 438
— of Magnesium Alloys, Effect of Surface Preparation on, 305
— Methods of Protection Against, British Standards Institution, Memorandum, 58
— Resistance Properties of Electrodeposited Tin-Zinc Alloys, 289*
— of Ships and Under-Water Paints, 498
Corthesy, J., the Late, 130
Costain, R., Ltd., Concrete House Construction, 332
Courtney-Pratt, J. S., on Lubrication between Piston Rings and Cylinder Walls, 69*
Covers, Manhole, Cast-Iron, Specification, 274
Cox, E. S., on Modern Locomotive History, 39
Cracks in Steel, Detection by Supersonic Waves, 472
Cranes, Kentucky Dam Power Scheme, 386*
— See also *Sheers*
Crankshaft for Burmeister and Wain Oil Engine, 357
— Drilling and Reaming Machine (A. A. Jones & Shipman, Ltd.), 522*
— Motor-Car Engine, Researches on, 6
Crates, Packing, Made from Steel-Mesh Reinforcement, 138
Crawford, R., on Electrical Aids to Coal Production, 226
Creep of Metals, Conference on, 233*, 258*
— Quality of Boiler-Plate Steel, Proof Test for, 58
Cresswell, R. A., on Tinning of Cast Iron, 526*, 550*
Crews' Accommodation in Ships, Watts' Prize for Improving, 327
Croft Engineering, Ltd., Holding Device for Machine Tools, 136
Crude-Oil Engines. See *Engines, Oil*
Cruickshank, J., Ltd., Four-Speed Dough-Mixing Machine, 225*
Cruisers. See *Warships*
Crystal, Strength of, and Atomic Physics, 519, 558*
— Structure of Non-Ferrous Metals, Influence on Machinability, 573*
— — of Metals. See also *Metallography; Microphotographs*
Curry, Capt. D. G. W., on Machinability Testing Apparatus and Development of Drill Test, 597*. See 544, 569, 593, 617
Curves, Plane, Drawing Tangents and Normals to, 209*
Cutting Fluids and Chipbreakers, 582. See 569, 593, 617
Cycle Industry, Position and Prospects, 101. See *Errata*, 216
— Motor. See *Motor Cycle*
Cylinder, Gas. See *Gas*
— Skirt for Merlin Engine, Gravity Die-Casting for, 47*
— Wall and Piston Ring, Lubrication between 69*
Cylindrical Grinding Machine. See *Grinding Machine* under *Machine Tools*

D.

DAILY HERALD "Modern Homes" Exhibition, 332
Dam Construction in Canada, 246
— — and Navigation on Columbia River, 590
— Engineering for (Review), 195
— Kentucky, on Tennessee River, 337*, 385* 433*
— Yangtze River Scheme, 7, 303
Damping Capacity and Fatigue of Metals, 280, 358*, 381*
— — of Metals, 482*
Davies, L. J., on New Lamps for Old, 501
Davies, Dr. W., on Hot-Strength Characteristics of Moulding Sands, 190*
Davis, J., & Son (Derby), Ltd., Pneumatic Electric Lamp, 163
Dawe Instruments, Ltd., Electronic Stroboscope, 115
Dawson, W. J., on Detection of Cracks in Steel by Supersonic Waves, 472
Daylight Illumination and Electricity Supply Demand, 158
— and Town Planning, 501
Decca Radio Navigation System, 451
Deep-Drawing Properties of Metals, Investigations on, 6
Degaussing, Theory and Practice of, 343
de Havilland Aircraft Co., Ltd., "Goblin" Jet-Propulsion Aero Engine, 175*
Derelict Land in Black Country, Report, 301
Desch, Dr. C. H., on Detection of Cracks in Steel by Supersonic Waves, 472; on Science and Steel Industry, 476, 485. See 448
Design, Engineering, Characteristics and Problems of, 333
— Industrial, in Consumer Goods, National Exhibition of, 327
Destroyers. See *Warships*
Devonshire, Sir J., the Late, 400
Diamond Lapping Wheel, "Spedia," Tests, 271
— Tools at Gauge and Tool Makers' Exhibition, 114
Dickinson, Dr. H. W., on How Cornish Engines Came to London, 510. See *Errata*, 619. See 518, 619*
Dictionary of Applied Chemistry, Thorpe's, Vol. VII (Review), 460
Die-Casting, Gravity, from Engineers' Viewpoint, 45*
— — Zinc Alloys for, Analysis of, 130
— for Pressure Castings (Fox & Offord, Ltd.), 136*
Diesel Engines. See *Engines, Oil, Diesel; Marine Propulsion*
Directories. See LITERATURE INDEX
Dislocation Theory of Slip in Crystals, 519, 559*
Disputes, Trade. See *Labour*
District Heating, Advantages and Limitation of, 140
Dixon, W., on Future of Electrical Generation, 206
Dock Accommodation for H.M. Ships under Repair, 403, 405, 415
— Dry, Floating, for United States Navy, 145*, 193*, 217* 265*
— Floating, Reinforced-Concrete, Construction of, 231
Dockyard, Chatham, Demolition of 130-Ton Sheers, 321*
— Hong Kong, 577*, 601*
Dolby, E. R., the Late, 496
Dollis Hill Post Office Research Station, Work of, 524
Domestic Appliances, Market for, Report, 85. See LETTER, 136
— Electricity Supply, Characteristics of Load, 398
— Fires and Atmospheric Pollution, 140, 157
— Heating from Central Station, 140
— — and Cooking Unit (Building Component Producers Association, Ltd.), 332
— Hot-Water Boilers, Specification, 202
— — Water Service, Centralised, Specification, 466
Donnelly, V. J., on Need for List of Industrial Films, 406
Door Frames, Metal, Specification, 298
— Metal Casement, Specification, 34
— Soot, for Buildings, Specification, 490
Dough-Mixing Machine, Four-Speed (J. Cruickshank, Ltd.), 225*
Drainage, Agricultural, Trenching Machine for (Aveling-Barford, Ltd.), 127*
Draughtsmanship (Review), 507
Drawing, Deep, of Aluminium Alloys, 261
— Tangents and Normals to Plane Curves, 209*
Drills and Drilling Machines. See *Machine Tools*
Drive, Synchronous, for Carding Machines (D. Brown & Sons (Huddersfield), Ltd.), 368*
Drop Forgings, Steel, Overheating of, 496
Drums for "Pluto" Pipeline, Experiments with, 473
Dry Dock. See *Dock*
Drying, Hay, and Electricity Supply, 469
Dunn, W. T., the Late, 400
Duralumin, Intercrystalline Corrosion by Sodium Chloride, 280
Dust, Coal. See *Pulverised Coal*
— Filters, Electrostatic, Hams Hall "B" Power Station, 98*
— on Roads, Prevention of, 331
Dynamical Balancing Machines for Rotors, 481*, 529*
Dynamos. See *Generators, Electric; Turbo-Generators*

E.

"EAGLE," H.M. Aircraft Carrier, Launch of, 279
Ealing, Popes-lane Emergency Substation, 57*
Earthquakes and Seismic Sea Waves, 484
Eatough, C., on Tool Wear as Measure of Machinability, 622*. See 544, 569
Eborall, R., on Reaction of Aluminium-Magnesium Alloy with Water Vapour, 428*, 438. See 305
"Ecito," Programme of, 279
Economics, Industrial. See *Labour*
— Railway. See *Railway*
Economy, British, in Post-War World, 136
— Fuel. See *Fuel Economy*
Eden, River, Reinforced-Concrete Railway Bridge over, 555*
"Edgwick" Screw-Thread Comparator, 222*
Edinburgh and Berwick Railway, Centenary of Opening, 566, 567

Education:

Advisory Service for Graduates and Students of Institution of Electrical Engineers, 231
Agricultural Education, Higher, Report of Committee on, 494
Board of Education Circular on Research in Technical Colleges, 423
Cambridge University Appointments Board, Report on University Education and Business, 37
Chemical Engineers, New Centres for Training of, 375
Chinese Naval Colleges, History of, 601*
Civil Engineering as a Career (Review), 340
Coal-Mining Industry, Plans for Education and Training in (Review), 554
Fuel Technologists, Training of, 165
Imperial College of Science and Technology, Report on Vacation Work Scheme, 63
Marine Engineers, Mercantile, Training of, 17
— Radio School, Woolwich, 514
Metallurgical Education, Plans for, 476, 485
Ministry of Education, Circular on Awards for University Students, 495
Public Examinations in Engineering, 257. See LETTERS, 304, 328, 400
Road Transport Engineers, Training of, 39
Technical Colleges, Research in, Board of Education Circular on, 423
Textile Machinery Makers, Ltd., Sir W. Preston Scholarship and Research Fellowship Scheme, 519
University Education and Business, Report on, 37
— and Scientific Man-Power, 565
— Students, State Assistance for, 495
See also PARAGRAPH INDEX

Alternator. See *Generator* and *Turbo*

Electric:

Arc Furnaces. See *Furnace, Electric*
— Welding. See *Welding*
Betatron, 200 Million-Volt (Metropolitan Vickers Electrical Co., Ltd.), 583
Bridge, Impedance, Universal (British Physical Laboratories, Ltd.), 90
British Electrical and Allied Industries Research Association, Report on Relation between Daylight Illumination and System Load, by P. Schiller, 158; Annual Luncheon, 159; Annual Report, 187; Report on Transient Warming of Rooms, by M. V. Griffith, 326; Report on Characteristics of Domestic Load, by P. Schiller, 398; Report on Electrification of Highland Agriculture, by C. A. C. Brown, 469
— — and Allied Manufacturers' Association, Annual Report, 399; Report on Rating of Resistance Welding Machines 519.
— Thermal Unit Meter, Distant-Reading (Elliott Brothers (London), Ltd.), 91*
Buildings, Regulations for Electrical Equipment, 207
Cables, Mineral-Insulated Metal-Sheathed, 31
— War-Time National Pool of, 57*
Cathode Rays. See *Cathode*
Central Electricity Board, National Pool of Spare Electrical Equipment, 57*; Annual Report, 373, 399, 615
Coil, Arc-Suppression, Experience with, 252
Commutator Separators, Micanite for, Specification, 466
Comparator, Direct- and Alternating-Current (Elliott Brothers (London), Ltd.), 91*
Conductor, Bunched Copper-Wire, Specification, 346
— Mineral-Insulated Metal-Sheathed, 31
Conductivity of Metals and Atomic Physics, 558
— of Sintered Metallic Powders, 190
Contacts, Sintered Metallic Powders for, 188*
Dielectrics, Investigations on, 187
— New, in Radio Engineering, 571
Dynamo. See *Generator; Turbo-Generator*
Earth-Leakage Trip (Record Electrical Co., Ltd.), 89
Electrical Apparatus, Physical Society's Exhibition, 15, 40*, 89*, 114*
— Aids to Coal Production, 226
— Engineering Industry, Position and Prospects, 123, 149
— Equipment of Buildings, Regulations for, 207
— — Industry, Need for Statistics, 350
— — Industry, Position and Prospects, 149
— Installations for Houses, Specification, 346
— Standards, Measurement of, 402
Electricity Commissioners, Questionnaire on Capital Expenditure, 15; National Pool of Spare Electrical Equipment, 57*; Electricity-Supply Statistics, 63
— Distribution and Utilisation of (Review), 267
Electro-Cardiograph, Portable (Clifton Instruments, Ltd.), 89
Electroplating. See *Electro*
Fluorescent Lighting in Binley Colliery, 522
— — Practice, 501
Furnaces. See *Furnaces*
Generating Stations. See *Power Stations*
Generator. See *Generator* and *Turbo*
High-Tension Networks, International Conference on, Paris Meeting, 231
Hydro-Electric Power Plants. See *Power Plants*
Ignition for Internal-Combustion Engines. See *Ignition*
Impedance Bridge, Universal (British Physical Laboratories, Ltd.), 90
— Comparator (Standard Telephones & Cables, Ltd.), 115*
— Meter (General Electric Co., Ltd.), 115
Induction Furnace. See *Furnace*
— Motors. See *Motors, Electric*
Instruments for Measuring Physical Quantities, 199
Insulating Materials, New, in Radio Engineering, 571
Insulation, Film-Forming Materials Used in, 7
— Mineral, for Metal-Sheathed Conductors, 31
Lamp Caps, Festoon, Specification, 418
— Design, Progress in, 501
— Discharge, Schedule for, 130
— and Fittings for Houses, Specification, 538
— Pneumatic (J. Davis & Son (Derby), Ltd.), 163
— Production, Exports and Imports, 149
Legislation, Fundamental, for Electricity Supply to Customers, 181
Lights, Navigation, Electrically-Controlled (Londex, Ltd.), 522
Lighting Equipment for Mines, Exhibition of, 163
— Fluorescent, in Binley Colliery, 522
— in Locomotive Sheds, London Midland and Scottish Railway, 84
Lightning, Protection Against, 127
Locomotives. See *Locomotives, Electric*
Machines. See *Generators; Motors; Turbo*
Magnetos. See *Ignition*
Magnetron, Construction of, 361*
— and Klystron, Theory of, 125*, 148*, 184*
Mains. See *Cables* (above).
Meter, British Thermal Unit, Distant-Reading (Elliott Brothers (London), Ltd.), 91*
— Certification, Order in Council, 255, 543
— Dynamometer Type (Sangamo Weston, Ltd.), 41
— Impedance (General Electric Co., Ltd.), 115

Electric—*continued.*

Motors. See *Motors, Electric*
Oil Switch. See *Switchgear*
Oscillograph, Cathode-Ray (Mullard Wireless Service Co., Ltd.), 90
Port Light, Marine (Chance Brothers, Ltd.), 40
Power. See *Power*
— Stations. See *Power Stations*
Railways. See *Railways*
Rays. See *Cathode Rays; X-Rays*
Resistance Welding. See *Welding*
Resistors, Non-Ohmic, Silicon-Carbide, 295
Röntgen Rays. See *X-Rays*
Rural Electrification in Canada, 134
— — Use of Single-Phase System for, 390
— Electricity Service in Ontario, 38
Ship Propulsion. See *Marine Propulsion*
Stroboscope, Electronic (Dawe Instruments, Ltd.), 115
— — (Scophony, Ltd.), 90
Substation. See *Substation*
Switchgear. See *Switchgear*
Telegraphy. See *Telegraphy*
Telephony. See *Telephony*
Thermometer. See *Thermometer*
Thermostats, History of, 391
Traction. See *Locomotives, Electric; Railways*
Transformers. See *Transformers*
Turbo-Generators. See *Turbo-Generators*
Voltage for Electric Ship Propulsion, 167
— Low-Pressure Distribution, Standardisation of, 159
— Standardisation, Implications of, Decision to Adopt, 571
Wave Filters, Electric, Theory and Design of (Review), 171
Wave-Guide Bench, 10,000-Megacycle (British Insulated Callender's Cables, Ltd.), 114*
Welding. See *Welding*
Wireless Telegraphy. See *Telegraphy; Radar; Radio; Television*
— Telephony. See *Telephony; Radar; Radio; Television*
See also PARAGRAPH INDEX

Electrical Engineers, Institution of:

Deformation of Alternator-Rotor Windings, by R. H. Coates and B. C. Pyle, 14
Transformer Practice with Reference to Standardisation, by A. G. Ellis, 86
Earl of Mount Edgcumbe, Election as Honorary Member, 87
Faraday Medal, Award to Sir E. V. Appleton, 87, 423
Presidential Visit to Engineering Institute of Canada, 111
Fundamental Legislation for Electricity Supply to Customers, by W. Fennell, 181
Supplement to Regulations for Electrical Equipment of Buildings, 207
Electrical Aids to Coal Production, by R. Crawford, 226
Advisory Service for Graduates and Students, 231
Practical Experience of Arc-Suppression Coils, by H. W. Taylor, 252
Silicon-Carbide Non-Ohmic Resistors, by F. Ashworth, W. Needham and R. W. Sillars, 295
Kelvin Lecture on Nuclear Physics and the Future, by Prof. M. L. Oliphant, 423
Report of Council, 471
Report on Benevolent Fund, 471
Implications of Decision to Adopt a Standard Voltage of 240 Volts, by H. Nimmo, 571

Installations Section:
Mineral-Insulated Metal-Sheathed Conductors, by F. W. Tomlinson and H. M. Wright, 31
Coreless Induction Furnaces, by M. J. Marchbanks, 404

Measurements Section:
Instruments for Special Purposes, by R. W. Griffin, 199
Engine Ignition Faults and New Method of Diagnosis and Location during Running, by F. R. F. Ramsay and W. Nethercot, 417

Radio Section:
Film-Forming Materials used in Insulation, by C. R. Pye, 7
Hyperbolic Navigation, by J. A. Pierce, 111
New Dielectric and Insulating Materials in Radio Engineering, by Dr. J. C. Swallow and G. P. Britton, 571

Transmission Section:
Mechanical Stresses in Transformer Windings, by Dr. E. Billig, 9
Rural Electrification: Use of Single-Phase System of Supply, by J. S. Pickles and W. H. Wills, 390

North-Eastern Centre:
Future of Electrical Generation, by W. Dixon, 206

North Midland Centre:
Formation of Installations Group, 232

Radiolocation Convention:
Programme, 207, 279
Report of Proceedings, 317, 367, 389
Evolution of Radiolocation, by Sir R. Watson-Watt, 306, 317
Aerials for Radar Equipment, by J. A. Ratcliffe, 319
Wave Guides, by Dr. M. H. L. Pryce, 319
Elements of Radio Meteorology, by Dr. H. G. Booker, 319
Experimental Studies of Propagation of Very Short Radio Waves, by E. C. S. Megaw, 319
Extratropospheric Influences in Ultra-Short Wave Radar Operation, by Sir E. Appleton, 319
Survey of Cathode-Ray Tube Problems in Service Applications, with Special Reference to Radar, by J. G. Bartlett, D. S. Watson and G. Bradfield, 319

Electrical Engineers, Institution of —continued.
Radiolocation Convention (continued):
War-Time Developments in Cathode-Ray Tubes for Radar, by L. C. Jesty, H. Moss and R. Pulestón, 367
Precision Radar, by W. A. S. Butement, 367
Development of Radio Valves, by Dr. J. H. E. Griffiths, 367
Ultra-High Frequency Measurements, by C. B. Oatley, 367
Problems in Shipborne Radar, by A. W. Ross, 389
Radar Transmitters, by O. L. Ratsey, 389
Radar Receivers, by Dr. W. B. Lewis, 389
Introduction to Circuit Techniques for Radiolocation, by Dr. F. C. Williams, 389
Radar Navigation, by Dr. R. A. Smith, 389
Symposium on Degaussing:
Programme, 295
Historical Introduction to Degaussing, by H. W. K. Kelly, 343
Under-Water Measurements of Magnetic Field, by Dr. D. H. Parnum, 343
Use of Ships' Models Magnetically to Scale in Degaussing Research, by R. J. Gossage, 343
Magnetic Field of Ship and its Neutralisation by Coil Degaussing, by W. C. Potts, 343
Electrical Engineering Aspect of Coil Degaussing, by I. S. Fraser, A. A. Read and B. E. Vieyra, 343
Processes Applied to Ship to Alter its State of Magnetisation, by Dr. S. H. Ayliffe, 343
Correction of Ships' Magnetic Compasses for Effects of Degaussing, by H. G. Wassell and D. A. Turner, 343
Electrical Engineers, Supervising, Association of. See *Supervising Electrical Engineers, Association of*
— and Radio Engineers, Plastics for (Review), 482
Electricity Commissioners. See under *Electric*
Electrodeposited Tin-Zinc Alloys, Corrosion Tests and Deposition Method, 289*, 427
— — Researches on, 285
Electrodepositors' Technical Society, Method of Electrodeposition of Tin-Zinc Alloys, by R. M. Angles, 427
Electro-Hydraulics (Messier), Ltd., Three-Spindle Horizontal Boring Machine, 426*
Electron Optics and Electron Microscope (Review), 340
Ellesmere Canal, Failure of Bank of, 177*
Elliott Brothers (London), Ltd., Direct- and Alternating-Current Comparator, 91*; Distant-Reading British Thermal Unit Meter, 91*
Ellis, A. G., on Standardisation of Transformers, 86
Embankments, Kentucky Dam, 433*
— and Soil Mechanics, 313*. See *Errata*, 346
Empire Scientific Conference, London, 589, 614
Employees. See *Labour*
Employment. See *Labour*
Endurance Tests. See *Fatigue* under *Tests (Materials)*
Engines, Aero. See *Aeronautics*
— Diesel. See *Engines, Oil, Diesel; Marine Propulsion; Motorships*
— Internal-Combustion, Diagnosis of Ignition Faults in, 417
— — Combustion, Lubrication between Piston Rings and Cylinder Wall in, 60*
— — Combustion, for Motor Vehicles, 309, 331, 604
— — Combustion. See also *Turbines, Gas*
— Locomotive. See *Locomotive*
— Motor Car. See *Engines, Petrol*
— Oil, Diesel, Construction in Italy, 295
— — Diesel, for French Diesel-Electric Locomotives, 161
— — Diesel, Marine, 750-b.h.p., M.S. "Vecta," 344*
— — Diesel, Marine, Development of Burmeister and Wain Type, 356
— — Diesel. See also *Motorships; Marine Propulsion*
— — Marine, Developments in, 269
— — Marine, 12-h.p. Opposed-Piston (Oil Engines (Coventry), Ltd.), 537*
— — Marine, 375-b.h.p. Six-Cylinder Petters, for Minesweepers, 369*
— — Six-Cylinder Petters, for Horseferry Road Citadel, 92
— — 720-b.h.p. Twelve-Cylinder V-Type (Mirrlees, Bickerton & Day, Ltd.), 560*
— — See also *Tractors* and PARAGRAPH INDEX
— Petrol, Aeroplane. See *Aeronautics*
— — Diagnosis of Ignition Faults in, 417
— — 1½-h.p. to 10-h.p. Industrial (Petters, Ltd.), 139
— — Marine, 3-h.p. Single-Cylinder (Petters, Ltd.), 537*
— — Motor-Car, Researches on, 5
— — Piston-Ring Gumming in, 93*
— — See also *Aeronautics; Carburettors; Motor Cars*
— Steam, Cornish, at Kew Bridge Pumping Station, 518, 619*
— — Lans, Spare Parts for, 520
— — Marine, Developments in, 269
— — Marine. See also *Marine Propulsion; Turbines*
— — Ploughing. See *Tractors*
— See also PARAGRAPH INDEX
Engineers, Characteristics of, 333
— Education. See *Education*
— Foreign, in Brazil, Permits for, 342
— Institutions. See *Institutions*
— Memorial Service, Westminster Abbey, 207
Engineering Apprentices. See *Education*
— Bibliography, Present State of, 247
— Centenaries in 1946, 15
— Contracts. See *Contracts*
— for Dams (Review), 195
— Education. See *Education*
— Industry in Italy, 295
— — Withdrawal from Essential Work Orders 135
— Laboratories. See *Laboratories; National Physical*
— and Marine Exhibition, Olympia, 1947, 111
Engineering Outlook, Economic Review, 27, 53, 77, 101, 123, 149, 172, 197, 220, 244, 268, 292. See *Errata*, 216
— and Scientific Association of Ireland, Peat Combustion for Industrial Steam Heating, by A. J. Woods, 223
— Societies. See *Institutions*
— Standards. See *Standards Institution*
— Works. See *Works*
England, Invasion of, and Photographic Reconnaissance, 568, 580
English Channel, "Pluto" Pipeline Across, Experiments on Craft for, 473
English Electric Co., Ltd., Diesel-Electric Drive for M.S. "Vecta," 344*
English, Dr. S., on Lighting of Airports, 501
Equilibrium Diagrams, Alloys. See *Metallurgy*
Ericsson Torpedo, 243
Escher Wyss 2,000-kW Hot-Air Turbine Power Plant, 1*, 25*, 49*
Essential Work Orders, Withdrawal of Engineering Industry from Provisions, 135
Estuaries, Tidal, Effect of Obstructions in, 241*
Europe, Inland Transport in, Report on, 135. See 279
— "Liberation," 2-8-0 Type Locomotive, 440*
European Central Inland Transport Organisation. Programme of, 279. See 135
Euston Station, Railway Signalling Exhibition at, 375
Evans, E. A., on Oxidation of Transformer Oils, 380
Evaporator for 2,500-kW Transportable Power Station, 463*
Everest, Dr. A. B., on Single-Blow Impact Test for Cast Iron, 117*
Everett, Edgcumbe & Co., Ltd. Time-Measuring Instruments, 41
Evershed & Vignoles, Ltd., Fuel Gauges, 89*
Ewing Medal, Award to Prof. R. V. Southwell, 399
Exchanger, Heat, for 2,000-kW Hot-Air Turbine Power Plant, 4*, 25*
Exhibition, "Britain Can Make It," 327
— British Scientific Instruments, Stockholm, 227, 591
— Chemical Research, Imperial Chemical Industries, Ltd., 443, 536
— Engineering and Marine, Olympia, 1947, 111
— Gauge and Tool Makers' Association, 42*, 65*, 113*, 136*
— Inspection Equipment, Newcastle-upon-Tyne, 39, 107
— Lighting, Illuminating Engineering Society's, 501
— Measuring and Inspection, A. Herbert, Ltd., 11, 81, 222*
— Metallurgical Products, Johnson, Matthey & Co., Ltd., 618
— Mine Lighting, 163
— "Modern Homes," 332
— National, of Industrial Design, 327
— Railway Signalling, at Euston Station, 375
— Scientific Apparatus, Physical Society's, 15, 40*, 89*, 114*
— Welsh Industries Fair, Cardiff, 581, 607
— See also PARAGRAPH INDEX
Experimental Tank. See *Tank*
Explosives, Surplus, Utilisation of, 138
Exports, Engineering, Need for, 542
— Trade. See *Trade*; and *Industries* in PARAGRAPH INDEX
Extensometer for Plastics, 241*
Extratropospheric Influences in Radar Operation, 319

F.

FACTORIES, Employment of Women. See *Labour*
— Government, Release and Allocation of, 27, 77, 101, 149, 173, 246
— Management. See *Works Management*
— Rolls-Royce, Hillington, Disposal of, 231
Fair, Trade. See *Exhibition*
Fairey Aviation Co., Ltd., "Firefly IV" Fighter Aeroplane, 583*; "Spearfish" Bombing Aeroplane, 583*
Fairfield Shipbuilding & Engineering Co., Ltd., S.S. "Beaverdell," 511*
Fairhurst, T. W., the Late, 616
Faraday Medal, Award to Sir E. V. Appleton, 87, 423
Farming. See *Agriculture; Tractors*
Fatigue of Aluminium Alloys, Effect of Residual Stresses on, 280
— of Metals and Damping Capacity, 280, 358*, 381*
— Tests of Metals. See *Fatigue* under *Tests (Materials)*
Federation of British Industries, Conference on Industry and Research, 281, 327; Doubts on Steel Nationalisation, 471
— of Coated Macadam Industries, Luncheon, 519
Feed-Water System for 2,500-kW Transportable Power Station, 463*
Female Labour. See *Labour* and PARAGRAPH INDEX
Fennell, W., on Fundamental Legislation for Electricity Supply to Customers, 181
Ferro-Concrete. See *Concrete, Reinforced*, and PARAGRAPH INDEX
Field, A. E., the Late, 249
"Fiji," H.M. Cruiser, Torpedo Damage to, 405*
Films, Cinematograph, Industrial, Need for List of, 496
— — of Lord Kelvin's Career, 501
— — Reproduction of Documents, Peace-Time Future, 135
— — of Water-Tube Boiler Construction (Babcock & Wilcox, Ltd.), 271*
— Forming Materials Used in Insulation, 7
— Protective, for Tin-Zinc Alloy Coatings, 291*
Filters, Dust, Electrostatic, Hams Hall "B" Power Station, 98*
— Magnetic, for Coolant and Lubricating Oil, Philips Industrial (Philips Lamps, Ltd.), 105*
— for Used Lubricating Oil, Researches on, 5
— Wave, Electric, Theory and Design of (Review), 171
Filtration of Used Lubricating Oil, Researches on, 5
Finance of Electricity Supply, 399
Fire Mains in H.M. Ships, Experience with, 377, 402
Fireboxes, Locomotive, Heat Transfer in, 493
Fireclay, Hot-Strength Characteristics of, 190
"Firefly IV" Fighter-Reconnaissance Aeroplane, 583*
Firth of Forth Road Bridge Scheme, 293
Fitting of Shafts in Holes. See *Gauges*
Fitzgerald, T., on Amalgamation of Institutions of Mechanical and Automobile Engineers, 304. See 183, 253. See LETTERS, 280, 328, 352, 424
Fiume, Torpedo Manufacture at, 169
Fixture and Jig System (Wharton & Olding, Ltd.), 608*
Flame Throwers, Researches on, 23
Flanges, Pietzker's Effective Breadth of, 364*. See LETTERS, 400, 448
Flaw Detector, Supersonic-Wave (H. Hughes & Son, Ltd.), 42, 472
Fleet. See *Warships*
"Fleetwood," H.M.S., Radio-Navigation Equipment in, 423, 451
Flight. See *Aeronautics*
Floating Dock. See *Dock*
Flood Control, Kentucky Dam on Tennessee River, 337*, 385*, 433*
— — Scheme for Missouri River, 594
Flooring, Bitumen Mixtures for, Specification 490
— Clay Tiles for, Specification, 394
— Softwood, Specification, 562
Flour Mill, Electrification of (Metropolitan-Vickers Electrical Co., Ltd.), 199*
Flow of Gases at Sonic and Supersonic Speeds, 207, 325, 329
Flue Blocks for Gas Fires and Ventilation, Specification, 418
Fluids, Mechanics of, Elementary (Review), 506
Fluorescent-Lighting Practice, 501
Fog-Dispersal Experiments in United States, 246
— — Process, Researches on, 33
Forbes, W. A. D., on Under-Water Paints and Fouling of Ships, 498
Forgings, Aluminium-Alloy, Manufacture, 138
— Drop. See *Drop Forging*
— Press. See *Press* under *Machine Tools*
— Steel, Overheating of, 496
Forrest, G., on Fatigue of Aluminium Alloys 280
Forth Road Bridge Scheme, 293
Foster, H., on Industrial War Records, 39
Fouling of Ships, and Under-Water Paints, 498
Foundations, Kentucky Dam, 337*, 435*
— for Railway Bridge Over River Eden, 555*
— and Soil Mechanics, 313*. See *Errata*, 346
Foundry. See *Castings; Moulding*
— Work. See *Die Casting*
Foundrymen, British Institute of. See *British*
Fox, F. A., on Influence of Surface Preparation on Corrosion of Magnesium Alloys, 305
Fox & Offord, Ltd., Pressure Casting Die, 136*
France, Aircraft Production in (Review), 437
— Torpedo Manufacture in, 170
— See also *French*
Fraser, I. S., on Electrical Engineering Aspect of Coil Degaussing, 343
Freeman, G. F., on Public Examinations in Engineering, 328. See 257. See LETTERS, 304, 400
French Diesel-Electric Locomotives, 161
— Industrial Research Organisation, Visit to England, 615
— Railways, Restoration Work on, 399
— See also *France*
Friction in Bolts and Nuts, 409*
— Tool, and Machinability, 544, 569, 573, 575*, 582, 593, 617, 620*, 622*
Froude Experimental Tank, Experiments for "Mulberry" Harbour, 473
Fry, L. H., on Heat Transfer in Locomotive Boiler, 493
Fuel Cells, Flexible, for Aircraft (Imperial Chemical Industries, Ltd.), 584*
— for Commercial Motor Vehicles, 341, 365, 548, 571, 604
— Consumption, 2,000-kW Hot-Air Turbine Power Plant, 49*
— Economy in Iron and Steel Works, 448, 472
— — Resulting from District Heating, 140
— Gas-Producer, for Transport, Testing of, Specification, 82
— and Gas Research at Leeds University, Report on, 543
— Gauges (Evershed & Vignoles, Ltd.), 89*
— Institute of, Meichett Lecture on Team Work in Research, by Dr. C. H. Lander, 21*, 33; Report of Council, 375; Presidential Address by Dr. E. W. Smith, 375; Conference on Waste-Heat Recovery, Programme, 342; Midland Section, District Heating, by Prof. R. O. Kapp, 140; East Midland Section, Training of Fuel Technologists, by Dr. J. W. Whitaker, 165
— Liquid, Synthetic, Work in United States on, 422
— — See also *Oil Fuel*
— Low-Grade, Utilisation of, Report on, 133. See LETTER, 304
— Oil. See *Oil Fuel*
— Position in Argentina, 342
— and Power, Ministry of, Utilisation of Low-Grade Fuels, 133. See LETTER, 304; Report on War-Time Coal-Mine Mechanisation and General Position at Present Time, by G. M. Gullick, 162, 175
— System for Whittle Jet-Propulsion Gas Turbine, 214*, 237*, 261*. See *Erratum*, 239
— Technologists, Training of, 165
— See also *Coal; Oil; Gas; Peat; Pulverised Fuel*
Furnace, Boiler. See *Stoker*
— Electric Induction, Coreless, 404
— — in Swedish Iron and Steel Industry, 448
— — for Tools (C. M. G. Calver, Ltd.), 500*
— for Gas Carburising Plant (Incandescent Heat Co., Ltd.), 488*
Furnace for 2,000-kW Hot-Air Turbine Power Plant, 4*
— Thermostats for, 413
Fused-Salt Pre-Treatment Methods for Tinning Cast Iron, 550*
Fusion Welding. See *Welding*

G.

GARVIE, H. T., the Late, 328
Gas Absorption by Magnesium Alloys, 305, 428*
— Appliances, Jointing Material for, Specification, 514
— Carburising Plant (Incandescent Heat Co., Ltd.), 488*
— Compressor for Whittle Jet-Propulsion Gas Turbine, 213*, 237*, 261*. See *Erratum*, 239
— Cylinders, Steel, Specification, 586
— Fired Furnaces. See *Furnaces*
— Fires and Ventilation Flue Bricks for, Specification, 418
— Flow at Sonic and Supersonic Speeds, 207, 325, 329
— and Fuel Research at Leeds University, Report on, 543
— and Gas Works. See also PARAGRAPH INDEX
— Heated Appliances for Domestic Purposes, Specification, 490
— Producer. See *Producer*
— Regulator (Cambridge Instrument Co., Ltd.) 40*
— Turbine. See *Turbine*
— Welding. See *Welding*
— See also *Hydrogen, etc.*
Gasoline. See *Petrol; Engine, Petrol; Carburettors; Aeronautics*
Gates, Mitre, Navigation Lock, Kentucky Dam, 385*
— Spillway, Kentucky Dam, 386*
Gauge, Caliper, Dial-Reading (Newall Engineering Co., Ltd.), 68*
— Depth, Float-Operated, for Flexible Fuel Cells for Aircraft, 585*
— Fuel, "Free-Float" and "Roll Float" (Evershed & Vignoles, Ltd.), 89*
— Inspection, Air-Operated (Brookside Engineers, Ltd.), 65*
— Screw-Thread, Roller Type (Newall Engineering Co., Ltd.), 67*
— Strain, for Use in Ships, 425
— Thickness, Electric Micrometer (Cambridge Instrument Co., Ltd.), 40*
— and Tool Makers' Association, Exhibition, 42*, 65*, 113*, 136*; Work of, 279; Luncheon, 616
Gawn, R. W. L., on Model Experiments in Mine Warfare 449
Gear, Lubricant, Testing Machine for, 114
— Motor Car, Researches on Durability, 6
— Rolling-Mill Pinion, Repair by Thermit Welding (Murex, Ltd.), 32*
— Transmission, for Tanks, 353, 378
Geared Turbines, Marine. See *Marine Propulsion*
Gee Radio Navigation System, 451
"Gemini" Aeroplane, 174
General Electric Co., Ltd., Impedance Meter, 115
General Electric Co. (New York), 35,000-kVA Alternators, Kentucky Dam, 433*
Generating Plant, Electric, Private, Specification, 538
— Station. See *Power Station*
Generator, Electric, Battersea Power Station, 17, 42
— — 9,000-s.h.p., S.S. "Beaverdell," 511*
— — Constructed in 1945, 124
— — Deformation of Windings of, 14
— — 50,000-kW, Hams Hall "B" Power Station, 97*
— — Hand-Driven, Tests of, 553*
— — 250-kW, for Horseferry Road Citadel, 92
— — for 2,000-kW Hot-Air Turbine Power Plant, 4*
— — 35,000-kVA Kentucky Dam, 433*
— — Micanite for Commutator Separators, Specification, 466
— — 2,500-kW, for Transportable Power Station, 463*
— — for M.S. "Vecta," 344*
— — See also *Turbo-Generators*
Geological Model, Kentucky Dam Site, 338*
George, C. W., on Method of Assessment of Machinability, 621*. See 544, 569
George, P., on Oxidation of Liquid Hydrocarbons, 379
German Industry, Disintegration due to Allied Air Attacks, 613
— — and Patents Control, Report on, 229
— Navy, Preparations for Invasion of England, 568, 580
— Supersonic Wind Tunnel, Transfer to United States, 7
— Switchgear Design, Report on, 224
— Tanks, Steering Mechanisms of, 353, 378
— War-Time Production, Quality of, 13
Germany, 2-10-0 Type Locomotive, with Air-Cooled Condenser, 355
— Torpedo Manufacture in, 170
— Turbo-Electric Propulsion in, 143
— Work on Jet-Propulsion Gas Turbine in, 263
Giffen, Prof. E., Award of Institution of Automobile Engineers' Medal to, 615
Girders. See *Beams; Bridges*
Glacier Metal Co., Ltd., Bimetallic Bushes for Small Bearings, 585
Glasgow, Disposal of Rolls-Royce Factory, Hillington, 231
— University, 200-Million Volt Betatron for Nuclear Research, 563
Glass Tubing, Manufacture of, 222
Glassware, Volumetric, Tests at National Physical Laboratory, 321*
Gloucester, Castle Meads Power Station, Segmental Ash-Plate for Chain-Grate Stokers, 294*
— Cheltenham Railway, Widening of, 30*
"Goblin" Jet-Propulsion Aero Engine, 175*
Goodall, Sir S. V., on Royal Navy at Outbreak of War, 353, 376, 402

Goodrich, W. E., on Overheating of Nickel-Chromium-Molybdenum Steel, 496
Goodyear Tyre & Rubber Co. (Great Britain), Ltd., Brake for Aircraft Landing Wheels, 608*
Gossage, E. J., on Use of Ships' Models in Degaussing Research, 343
Gossling, P. W. L., on International Research on Transformer Oils, 379; on Sludging Value of Transformer Oil, 380
Gothenburg Experimental Tank, Experiments on Cargo Liners, 449
Gould, F. A., on Standards of Mass, 401
Government Factories, Release and Allocation of, 27, 77, 101, 149, 173, 246
— and Iron and Steel Industry, 397, 446, 471, 517
— Offices, Underground, Emergency, 92
— Railways. See *Railways*
Governor Gear, 2,000-kW Hot-Air Turbine Power Plant, 50*
— for 44,000-h.p. Hydraulic Turbine, Kentucky Dam, 388
Grain, Moisture Meter for (Mullard Wireless Service Co., Ltd.), 89*
Grand Coulee Irrigation Scheme, 65,000-h.p. Centrifugal Pump for, 7
Grant, J. W., on Single-Blow Impact Test for Cast Iron, 117*
Grates, Combination, Domestic, Specification, 490
— See also *Stoker*
Gratings, Gully, Road, Specification, 274
Graving Dock. See *Dock*
Gray, F. A., on Fuel Utilisation in Iron and Steel Works, 448, 472
— Lecture on Alternating-Current Turbo-Electric Ship Propulsion, 111, 142*, 166*
Great Western Railway, Widening of Gloucester-Cheltenham Line, 30*; Report on Sun Bank Accident, 177*
Greenly, Lieut.-Col. Sir John, Award of Platinum Medal to, 259
Greenock, Torpedo Manufacture at, 170, 243
Greenwich Observatory, Removal to Hurstmonceaux Castle, 414
Gresley, Sir N., Locomotives of (Review), 196
Grieg, E. C., the Late, 491
Griffin, R. W., on Instruments for Special Purposes, 199
Griffith, M. V., on Transient Warming of Rooms, 326
Griffiths, Dr. E., on Refrigerated Transport of Meat in Tropics, 453*
Griffiths, Dr. J. H. E., on Evolution of Radio Valves, 367
"Griffon" Aero Engine, 128*
Grinding Machines. See *Machine Tools*
Grogan, J. D., on Intercrystalline Corrosion of Aluminium-Copper Alloy, 280
Grouting, Foundation for Kentucky Dam, 435
Guerin Process for Bakelite Laminated Sheet Production, 249*
Guerrier, Comdr. H. E., on Pay of Skilled Tradesmen, 17. See LETTERS, 64
Guilloton, Dr. R., on Wave Profiles and Hull Resistance, 532
Gullick, G. M., War-Time Development in Coal Mines Mechanisation, 162, 175
Gully Gratings, Road, Specification, 274
Gun Mountings, Responsibility of Naval Engineers, 577
— — Naval, Tilt Tests for, 499
— Turrets for Aircraft (Boulton Paul Aircraft, Ltd.), 18
— See also *Ballistics; Explosives; Warships* and PARAGRAPH INDEX
Gunnery, Application of High-Pressure Gear Pump to, 183, 185, 208, 284*, 310*, 334*. See LETTER, 232
— Application of Radar to, 307, 389
Gunpowder. See *Explosives*
Gypsum Plasterboard Specification, 58

H.

HALFORD, MAJOR F. B., on Jet Propulsion, 421
Hall, J. A., on Measurements of Temperature, 402
Hamblin, H. J., on Tests of Pneumatic Tyres for Farm Tractors, 201
Hams Hall "B" Power Station, Birmingham, 97*
Handforth, J. R., on Aluminium-Alloy Forgings and Stampings, 138
Handling Plant, Ash, Hams Hall "B" Power Station, 98*
— — Coal, Hams Hall "B" Power Station, 97*
Hankins, Dr. G. A., on Flow of Gases at Supersonic Speeds, 207, 325, 329; on Mechanics of Cutting Operation, 574*. See 544, 569, 593, 617
Hanstock, Dr. R. F., on Damping Capacity and Fatigue of Metals, 358*, 381*. See 280
Harbour, "Mulberry," Model Experiments for, 473
— See also PARAGRAPH INDEX
Hardness Tests. See *Tests (Materials)*
Hardy, T. W. B., on Theory of Lock Nuts, 16. See LETTERS, 39, 112, 161
Harker, G. F. H., on Drawing Tangents and Normals to Plane Curves, 200*
Harland & Wolff, Ltd., Launch of H.M. Aircraft Carrier "Eagle," 279; Development of Burmeister and Wain Oil Engine by, 356
Harris, Prof. J. E., on Under-Water Paints and Fouling of Ships, 498
Hartley, A., on Overheating and Burning of Steels, 496
Hartridge, Prof. H., on Light and Vision, 501
Hartshorn, Dr. L., on Electrical Standards, 402
Harvey Steam Engine, Valve Gear, 619*. See 510, 518
Haslar Experimental Tank, Experiments on Mine Warfare, 449
Hatfield Memorial Lecture on Dr. W. H. Hatfield's Services to Metallurgy, 461
Haulage Methods, Underground, for Mining Engineers, Manual of (Review), 52
Hauser, H. H., on Sintered Metallic Powders for Electrical Contacts, 188*
Hay Drying and Electricity Supply, 469
Health, Ministry of, Central Advisory Water Committee, 567
Heat Control by Thermostat, History, 314, 391
— Engines. See *Engines; Turbines; Aeronautics*
— Exchanger for 2,000-kW Hot-Air Turbine Power Plant, 4*, 25*
— Insulation, Lagging Materials for Textile Factories, 21*
— Transfer Coefficients in Surface Condensers, 505*
— — in Locomotive Boiler, 493
— — Team Research Work in, 22
— Treatment of Metals. See *Metallurgy*
— Waste. See *Waste Heat*
Heater, Air, for 2,000-kW Hot-Air Turbine Power Plant, 4*
Heathrow, London Air Port, Progress of, 303
Heating and Cooking Unit, Domestic (Building Component Producers Association, Ltd.) 332
— Curves, Alloys. See *Metallurgy*
— District, Advantages and Limitations of, 140
— Plant, Steam, Experiences with Peat Fuel for, 223
— Transient, of Rooms, Report on, 326
Heavy Motor Car Order 1904, 309, 331
Hebblethwaite, W. M., on Operating Experience with La Mont Boilers, 87
Helicopters. See *Aeronautics*
Herbert, A., Ltd., Measuring and Inspection Exhibition, 11, 81, 222*; "Abrasaw" for Non-Metallic Materials, 20; Double-Anvil Thread Comparator, 81, 222*; Hexagon Turret Lathe for Bar Work, 272*; Vertical Knee-Type Milling Machine, 486*; Automatic Face Cutter Grinding Machine, 523*
Hickman, M. J., on Refrigerated Transport of Meat in Tropics, 453*
Hiduminium R. R. 56, Damping Capacity and Fatigue of, 381*
High Duty Alloys, Ltd., Research on Damping Capacity and Fatigue of Metals, 280, 358*, 381*
— Speed Steel. See *Steel*
— Temperature Tests. See *Tests (Materials)*
Highland Agriculture, Electrification of, Report, 469
Highways. See *Roads*
Hill, Prof. A. V., on Publication of Results of War-Time Scientific Research, 112
Hillington, Rolls-Royce Factory, Disposal of, 231
Hinchcliffe, M. R., on Gravity Die-Casting from Engineers' Viewpoint, 45*
Hindley, Dr. W. N., on Error in Diamond-Pyramid Hardness Measurements, 286*
History of Kirkstall Forge through Seven Centuries (Review), 412
— Railway, British, 1846-1946, 566
H.M. SS. See under *Warships*
Hodge, R., the Late, 534
Hoists. See *Cranes; Sheers*
Holes, Fitting of Shafts in. See *Gauges*
Holidays, Summer Vacation Work Scheme, Imperial College, 63
Hollings, J. S., Award of Bessemer Medal to, 424
Holroyd, Dr. R. H., on Processes of Destructive Hydrogenation, 447
Holt, J. & Co. (Liverpool), Ltd., on Lanz Steam Engine, 520
Holt, W. J., on Admiralty-Type Motor Fishing Vessels, 521
Hong Kong Dockyard, 577*, 601*
Honours List, King's Birthday, 591, 615
— — New Year, 15, 63, 87
Hookham, G., on Tensions in Hanging Wires, 460*; on Formulæ for Calculation of Pipe-Bend Angles, 507*
Horseferry Road Citadel, Machinery Equipment of, 92
Hot-Air Turbine Power Plant, 2,000-kW, 1*, 25*, 49*
— Water Service, Domestic, Centralised, Specification, 466
— — Supply by Gas for Schools, Specification, 562
House of Commons, Ventilating Arrangements, 591
— Construction, "Modern Homes" Exhibition, 332
— Electric Fittings and Lamps for, Specification, 538
— — Installations for, Specification, 346
Household Appliances, Market for, Report, 85. See LETTER, 136
Housing Estates, Electricity Load in, 398
Hughes, H., & Son, Ltd., Supersonic Flaw Detector, 42, 472; Split-Field Direct-Current Motor, 42*
Hull Resistance of Ships, Calculation of, 532
Hulse, C., on Fuel Efficiency in Iron and Steel Works, 448, 472
Hume-Rothery, Dr. W., on Magnesium-Silver-Lithium Alloys, 305
Humidity-Measuring Instruments, 199
Hurstmonceux Castle, Removal of Greenwich Observatory to, 414
Hydraulic Power Plant. See *Power Plant*
— Press. See *Press* under *Machine Tools*
— Turbines. See *Turbines; Power Plant*
Hydraulics. See *Irrigation; Water*
Hydrocarbons, Liquid, Oxidation of, 379
Hydro-Electric Power Plant. See *Power Plant*
Hydrogen, Absorption by Aluminium-Magnesium Alloy, 305, 428*, 438
Hydrogenation of Coal, Work in United States on, 422
— Destructive, Processes of, 447
Hyperbolic Navigation, 111

I.

ICE. See *Refrigeration*
I.C.I. Metals, Ltd., Research on Computations in Metal Strip Rolling, 281
Ignition Faults in Internal-Combustion Engine, Diagnosis of, 417
"Ilex," H.M. Destroyer, La Mont Boiler in, 87
Illinois Central Railway Bridge, Kentucky Dam, 339*
Illuminating Engineering Society, London Convention and Exhibition: Light and Vision, by Prof. H. Hartridge, 501; New Lamps for Old, by L. J. Davies, 501; Laboratory Techniques for Solving War-Time Visibility Problems, by W. R. Stevens and J. M. Waldram, 501; Lighting of Airports, by Dr. S. English, 501; Daylight and Town Planning, by W. Allen, 501; Fluorescent Lighting Practice, by W. J. Jones, 501
Illumination, Daylight, and Electricity Supply Demand, 158
— See also *Light; Lighting;* and *Lamps* under *Electric*
Impact Tests. See *Tests (Materials)*
Imperial Chemical Industries, Ltd., Chemical Research Exhibition, 443, 536; Flexible Fuel Cells for Aircraft, 584*
— College of Science and Technology, Fuel Research at, 22*; Report on Vacation Work Scheme, 63; Mine-Lighting Exhibition, 163
Import Trade. See *Trade*
Incandescent Heat Co., Ltd., Gas Carburising Plant, 488*
— Lamps. See *Lamps* under *Electric*
Indexing, Abstracting and Bibliographies, 247
India Rubber. See *Rubber*
Indicator, Temperature, Marine (Cambridge Instrument Co., Ltd.), 40*
Induction Furnaces. See *Furnace, Electric*
— Motor. See *Motor, Electric*
Industrial Agreements and Disputes. See *Labour* and *Trade Societies* in PARAGRAPH INDEX
— Chemistry. See *Chemistry*
— Design, Council of, National Exhibition of Industrial Design in Consumer Goods, 32
— Economics. See *Labour*
— Furnaces. See *Furnaces*
— Management. See *Works Management*
— Notes. See *Labour Notes* under *Labour*
— Process Control, Principles of (Review), 5
— Research. See *Research*
— Statistics, Need for, 230
Industries, British, Federation of. See *Federation*
— Welsh, Cardiff Fair, 581, 607
— See also *Trade* and PARAGRAPH INDEX
Industry and Emergency Legislation, 277
— and Research, Conference on, 281, 327
— United States, Effect on War on, 182
— University Graduates in, 37
Inertia and Mass, Removal of Ambiguities Regarding, 259
Ingots, Magnesium-Alloy, Specification, 250
Inland Navigation. See *Navigation; Canals; Rivers, etc*
— Transport in Europe, Report on, 135
— — Organisation, European, Programme, 279
Inspection Equipment Exhibition, Newcastle-upon-Tyne, 39, 107
— Gauge, Air-Operated (Brookside Engineers, Ltd.), 65*
— and Measuring Exhibition, A. Herbert, Ltd., 11, 81, 222*
Institute of Transport. See *Transport*
— See *Institutions*
Institution, British Standards. See *Standards*
— Elections, 10, 58, 82, 106, 154, 178, 226, 250, 298, 322, 346, 370, 394, 486, 490, 562, 586, 610
— Royal. See *Royal Institution*
— Technical and Scientific. See *Aeronautical Society, Royal; Agricultural Engineering, National Institute of; Arts, Royal Society of; Automobile Engineers, Institution of; British Association; British Foundrymen, Institute of; Canada, Engineering Institute of; Chemical Engineers, Institution of; Chemists, British Association of; Civil Engineers, Institution of; Consulting Engineers, Association of; Electrical Engineers, Institution of; Electrodepositors' Technical Society; Engineering and Scientific Association of Ireland; Fuel, Institute of; Illuminating Engineering Society; Iron and Steel Institute; Junior Institution of Engineers; Libraries, Special, and Information Bureau, Association of; Locomotive Engineers, Institution of; Manchester Association of Engineers; Marine Engineers, Institute of; Maudslay Society; Mechanical Engineers, American Society of; Mechanical Engineers, Institution of; Metals, American Society for; Metals, Institute of; Mining Engineers, Institution of; Municipal Electrical Association, Incorporated; Naval Architects, Institution of; Newcomen Society; North-East Coast Institution of Engineers and Shipbuilders; Petroleum, Institute of; Physical Society; Physics, Institute of; Radio Engineers of America, Institute of; Refrigeration, Institute of; Royal Society; Statistical Society, Royal; Structural Engineers, Institution of; Supervising Electrical Engineers, Association of; Swiss Association of Electricians; Testing Materials, American Society for; Transport, Institute of; Welding, Institute of; Wrought Light Alloys Association*
Instruments for Measuring Physical Quantities, 199
— Measuring, for Strains in Ships, 425
— Optical, in Engineering (Review), 316
— Scientific, British, Exhibition in Stockholm, 227, 591
— — (Review), 506
— See also *Aeronautics; Electric*
Insulation. See *Heat; Electric*
Integrators, Photometric, Specification, 154
Internal-Combustion Engines. See *Aeronautics; Engines; Motor Cars; Tractors; Turbine, Gas*
International Combustion, Ltd., Boiler Plant for Hams Hall "B" Power Station, 97*
— Temperature Scale, Measurement of Temperature on, 402
— Trade. See *Trade*
Invasion of England and Photographic Reconnaissance, 568, 580
Inventions, Netherlands, Patents During 16th, 17th and 18th Centuries (Review), 340
— Value to Engineers, 333
— See also *Patents*
Irish Hospitals' Trust, Ltd., Experience with Peat Fuel for Steam Raising, 223
Iron Alloys. See *Metallurgy* and *Steel*
— Case-Hardening. See *Heat Treatment* under *Metallurgy*
— Corrosion. See *Corrosion*
— Furnaces. See *Furnaces*
— Heat Treatment. See *Metallurgy*
— Joint Council, Report on Iron and Steel Industry Modernisation, 446, 471
— and Steel Industry Modernisation, Report on, 446, 471
— — Industry, Nationalisation of, Government Policy, 397, 446, 471, 517
— — Industry, North-East Coast, Electricity Supply to, 270
— — Industry, Re-equipment Plans, 28
— — Industry, Services Rendered by Science to, 476, 485
— — Industry, United States, Plans for, 594

Iron and Steel Institute:

Monthly Bulletin, Change of Format, 227
Hatfield Memorial Lecture on Dr. Hatfield's Services to Metallurgy, by Dr. G. B. Waterhouse, 461
Autumn Meeting, London, 1945:
Single-Blow Impact Test for Cast Iron, by Dr. A. B. Everest, J. W. Grant and H. Morrogh, 117*
Sources of Error in Diamond-Pyramid Hardness Measurements on Hardened Steel, by Dr. W. N. Hindley, 286*
Annual Meeting, London, 1946:
Programme, 318
Report of Council, 424
Report of Honorary Treasurer, 424
Bessemer Medal, Award to J. S. Hollings, 424
Hot Strength Characteristics of Moulding Sands, by Drs. W. Davis and W. J. Rees, 190*
Annual Luncheon, 447
Formation of Iron and Steel Engineering Group, 448
Election of Officers, 448
Presidential Address, by Dr. C. H. Desch, on Science and Steel Industry, 476, 485. See 448
Reports of Discussions, 448, 472, 496
Fuel Problems in Swedish Iron and Steel Industry, by Dr. M. Tigerschiöld, 448, 472
Problems in Fuel Efficiency, by C. Hulse and Dr. R. J. Sarjant, 448, 472
Fuel Utilisation in Iron and Steel Works, by N. H. Turner and F. A. Gray, 448, 472
Detection of Cracks in Steel by Means of Supersonic Waves, by Dr. C. H. Desch, D. O. Sproule and W. J. Dawson, 472
Some Aspects of Overheating of Steel Drop Forgings, by H. J. Merchant, 496
Overheating and Burning of Steels, by A. Preece, A. Hartley, Dr. S. E. Mayer and J. Nutting, 496
Overheating and Burning of Nickel-Chromium-Molybdenum Steel, by W. E. Goodrich, 496
Effect of Oxygen on Isothermal Transformations of Steel and Suggested Test for Burning, by Prof. F. C. Thompson and Dr. L. R. Stanton, 496
Some Experiments on Overheating, by J. Woolman and H. W. Kirkby, 496
Tinning of Cast Iron, by R. A. Cresswell, 526*, 550*

Iron and Steel Manufacture in Chile, 342
— — Production in United Kingdom, Statistics, 27
— — Works. See *Works*
— — See also PARAGRAPH INDEX
— Tests. See *Tests (Materials)*
— Welding. See *Welding*
— See also *Cast Iron; Steel; Metallurgy*
Ironwork, Structural. See *Bridges; Structures*
Irrigation and Navigation, Columbia River Scheme, 590
— Scheme, Grand Coulee, 65,000-h.p. Centrifugal Pump for, 7
— — for Missouri River, 594
— — Yangtze River, 303
— See also PARAGRAPH INDEX
Italy, Engineering Industry in, 295
— Torpedo Manufacture in, 170
Iterson, F. van, on Utilisation of Low-Grade Fuels, 304. See 133

J.

JARU, LTD., Exhibits of Bearings at Welsh Industries Fair, 607
"Javelin," H.M. Destroyer, Torpedo Damage to, 405*
Jesty, L. C., on Cathode-Ray Tubes for Radar, 367
Jet Propulsion and Commercial Flight, 421
— — Engine, Effect of Supersonic Flight, 542. See *Erratum*, 587
— — Gas Turbine, Researches on, 22*
— — Gas Turbine, Whittle, 212*, 237*, 261*. See *Erratum*, 299
— — "Goblin" Engine, 175*
Jig and Fixture System (Wharton and Olding, Ltd.), 608*
Johnson, J., Machinery of S.S. "Beaverdell," 511*
Johnson, Matthey & Co., Ltd., Exhibition of Metallurgical Products, 618
Johnstone, L., on Effect of Machinability on Medium Engineering Production, 606. See 569, 593
Jointing Material for Gas Appliances, Specification, 514
Jones, A. A., & Shipman, Ltd., Crankshaft Drilling and Reaming Machine, 522*
Jones, E. H. (Machine Tools), Ltd., 10-in. Cylindrical Grinding Machine, 248*; Sigma Mechanical Comparator, 414*
Jones, W. J., on Fluorescent Lighting Practice, 501

Journals. See *Bearings*
Junior Institution of Engineers, Stevens Lecture on Processes of Destructive Hydrogenation, by Dr. R. H. Holroyd, 447; Annual Luncheon, 495

K.

KAPP, Prof. R. O., on District Heating, 140
Kaye, J., & Sons (Huddersfield), Ltd., Synchronous Drive for Carding Machines, 368*
Kearns, H. W., & Co., Ltd., Three-Spindle Horizontal Boring Machine, 416*
Keller, Dr. C., on 2,000-kW Hot-Air Turbine Power Plant, 1*, 25*, 49*
"Kelly," H.M. Destroyer, Torpedo Damage to, 405*
Kelly, H. W. K., on History of Degaussing, 343
Kelvin Lecture on Nuclear Physics and the Future, by Prof. M. L. Oliphant, 423
Kelvin, Lord, Cinematograph Film of Career, 501
Kendall, J. T., on Production of Atomic Energy, 75*, 100
Kenneford, A. S., on Machinability Testing Methods Using Pendulum Machines, 599*. See 544, 569
Kent, G., Ltd., War Record of, 534
Kentucky Dam on Tennessee River, 337*, 385*, 433*
Kerr, Dr. R., on Corrosion-Resistance of Electrodeposited Tin-Zinc Alloys, 289*
Kew Bridge Pumping Station, Cornish Engines at, 518, 619*
Keynes, Lord, Nomination to Fellowship of Royal Society, 532
Kincaid, J. G., & Co., Ltd., S.S. "Beaverdell," 511*
Kinematograph. See *Cinematograph*
King's Birthday Honours List, 501, 615
Kingsmoor-Carlisle Railway Widening, 555*
Kirkby, H. W., on Experiments in Overheating of Steel, 496
Kirkstall Forge, History Through Seven Centuries (Review), 412
Klystron and Magnetron, Theory of, 125*, 148*, 184*
Kochel Supersonic Wind Tunnel, Transfer to United States, 7
Krakatoa Eruption and Seismic Sea Waves, 484

L.

LABORATORY, Research, Institution of Automobile Engineers, Transfer to Motor Industry Research Association, 615
— Testing, Metallurgy Division, Royal Aircraft Establishment, 236
— See also *National Physical*

Labour :

Coal-Mining Industry, Plans for Recruitment, Education and Training in (Review), 554
Labour in Canadian Shipyards, 462, 487, 520, 525
— in Engineering Industry, 27, 53, 77, 123, 269, 293
— in H.M. Dockyards During War, 405, 437
— and National Service, Ministry of, Regulations for Grinding Magnesium Castings, 30; Withdrawal of Essential Work Orders, 135; Mines Mechanisation Training Centre, 175; Emergency Legislation, 277
— Notes, 20, 44, 68, 92, 116, 140, 164, 187, 212, 236, 260, 283, 308, 332, 356, 380, 404, 428, 452, 475, 500, 524, 547, 572, 595, 620. See PARAGRAPH INDEX
Mines Mechanisation Training Centre, Sheffield, 175
Physical Output per Head in Industry, 27
Trade Disputes and Trade Unions Act, 1927, Repeal of, 183
— Unions, Law of (Review), 363
Tradesmen, Skilled, Pay of, 17. See LETTERS, 64
Wages in Engineering Industry, 54, 125, 294
Women in Engineering Industry, 54, 77, 125, 269, 292

Lac, Bleached, Specification, 346
Lacey, J. M., the Late, 88
Lagging Materials. See *Heat Insulation*
Laidlaw, Drew & Co., Whittle Jet-Propulsion Gas Turbine, 212*, 237*, 261*
Lake Superior, Schreiber Pulp and Paper Mill, 594
La Mont Boiler, Development and Performance of, 87
Lamps, Electric. See *Electric*
Lanchester, Dr. F. W., the Late, 256*
Land, Derelict, in Black Country, Report, 301
Lander, Dr. C. H., on Team Work in Research, 21*, 33
Landing Wheels, Aircraft, Single-Disc Brake for, 608*
Lanz Steam Engine, Spare Parts for, 520
Larke, E. C., on Computations in Metal Strip Rolling, 281
Lathes. See *Machine Tools*
Law. See *Legal; Labour; Patents*
Lawton, F. W., Hams Hall "B" Power Station, 97*
Lay Torpedo, History of, 242
Lead-Bearing Materials and Machinability, 544, 569, 573, 593, 600*
— Pipes, Specification, 394
Leeds University, Gas and Fuel Research, Report on, 543

Legal :

Atomic Energy Bill, 471
Cable and Wireless Limited, Bill, 423
Electricity Supply to Customers, Fundamental Legislation, 181
Labour Legislation. See *Labour*
Legislation, Emergency, and Industry, 277

Legal—*continued*.

Patent Law. See *Patents*
Railway Bills in 1846, 566
Road Transport Legislation, 1896-1946, 309, 331, 341, 365, 462, 548, 571, 604. See *Erratum*, 331
Supplies and Services (Transitional Powers) Act, 1945, Debate on, 277
Synthetic Liquid Fuels Act, 1944, United States, 422
Trade Disputes and Trade Unions Act, 1927, Repeal of, 183
— Unions, Law of (Review), 363
See also PARAGRAPH INDEX
Legislation. See *Legal; Labour; Patents*
Leicester, Atmospheric Pollution in, Report, 157
Leith-Hay-Clark, Major N., on Pay of Skilled Tradesmen, 64. See LETTER, 17
Length, Standard of, Measurement, 401
Letters to the Editor, 16, 39, 64, 88, 112, 136, 161, 232, 259, 280, 304, 328, 352, 400, 424, 448, 496, 520, 546*, 568, 594
Lewis, Dr. W. B., on Radar Receivers, 389
Leyensetter Machinability Testing Machine, 599*
Liardet, A. A., the Late, 185
"Liberation" 2-8-0 Type Locomotive (Vulcan Foundry, Ltd.), 440*
Liberia, Monrovia Port Development, 7
Libraries, Special, and Information Bureaux, Association of, Future of Microfilm Service, 135
Liége School of Engineering, Old Students' Association, Award of Trasenster Medal to Sir E. Appleton, 346
Lifts, Electric, Specification, 586
Light Alloys. See *Alloys* under *Metallurgy*
— Metal Founders' Association, Reconstitution of, 351
— Navigation, Electrically-Controlled (Londex Ltd.), 522
— and Vision, Investigations on, 501
— Wavelength as Standard of Length, 401
Lighting of Airports, 501
— Exhibition, Illuminating Engineering Society's, 501
— Fluorescent, in Binley Colliery, 522
— Mine, Exhibition, 163
— See also *Lamps* under *Electric*
Lightning. See *Electric*
Limit Gauges. See *Gauges*
— System, Standard, Use of, 424
"Lincoln" Bomber, 224*
Lindblad, Prof. A. F., on Cargo Liner Experiments in Gothenburg Tank, 490
Liners. See *Ships; Steamers; Motorships*
Lintels and Sills for Windows and Doors, Specification, 82
Liquid Fuel. See *Oil Fuel*
Literature, 5, 26, 52, 99, 147, 171, 195, 219, 267, 292, 316, 340, 363, 412, 436, 459, 482, 506, 532, 554, 579, 603. See LITERATURE INDEX
Lithgows, Ltd., S.S. "Beaverdell," 511*
Litigation. See *Legal; Labour; Patents*
Liverpool Steam Ship Owners' Association, Annual Report, 399
Llangollen Railway Accident, Report, 177*
Lloyd-Evans, Prof. B., on Shackles for Central Loading, 546*
Lloyd's Register of Shipping, Introduction of Four Yearly Special Surveys, 88; Statistics, Vessels Launched in 1945, 183. See 268; Failure of Negotiations to Unite with British Corporation, 414; Shipbuilding Statistics, 447; Work in War-Time, 477
Load Factor and Domestic Electricity Supply, 398
Loading Machines, Agricultural, Recent Developments, 172
— — for Coal Mines, 226
Local Authorities. See *Municipal*
Lock, Navigation, Kentucky Dam, 339*, 385*, 434*
— Nuts, Theory of, 16. See LETTERS, 39, 112, 161
Locomotive, 2-10-0 Type, with Air-Cooled Condenser, German, 355
— Boiler, Heat Transfer in, 493
— for British Railways, 278. See LETTER, 328
— British, Statistical Returns, 470
— 2-8-2 Type, Combined Steam and Oil-Engined, 355
— Development on London Midland and Scottish Railway, 39
— Engineers, Institution of, Modern Locomotive History, by E. S. Cox, 39; Ten Years' Experience with L.M.S. 4-6-2 Non-Condensing Turbine Locomotive No. 6202, by R. C. Bond, 109. See LETTER, 259
— French Diesel-Electric, 161
— Grate and Smoke-Box Improvements, London Midland and Scottish Railway, 103
— by Sir N. Gresley (Review), 196
— on Highways Act, 1896, 309
— Industry, Position and Prospects, 220
— Manufacturers' Association, "Liberation," 2-8-0 Type Locomotive, 440*
— Sheds, Lighting in, London Midland and Scottish Railway, 84
— Steam Turbine, London Midland and Scottish Railway, Experience with, 109. See LETTER, 259
— 2-8-0 Type, "Liberation," for Continental Service (Vulcan Foundry, Ltd.), 440*
— 4-4-6-4 Type, Pennsylvania Railroad, 355
— 4-14-4 Type, for Russian State Railways, 355
— 4-8-4 Type, South Australian Railway, 355
— 6-8-6 Type Steam Turbine, Pennsylvania Railroad, 355
— See also *Railways* in PARAGRAPH INDEX
Lodge-Cottrell, Ltd., Electrostatic Dust Precipitator, Hams Hall "B" Power Station, 96
Londex, Ltd., Electrically-Controlled Navigation Lights, 522
London Air Port, Heathrow, Progress of, 303
— Association of Engineers, Annual Festival, 520
— First Empire Scientific Conference, 589, 614
— Greater, Proposals for Water Area, 110
London, Midland and Scottish Railway, Widening of Gloucester-Cheltenham Line, 30*; Locomotive Development on, 39; Lighting in Locomotive Sheds, 84; Locomotive Grate and Smoke-Box Improvements, 103; Experience with Turbine Locomotive, 109. See LETTER, 259; Experimental Station Building, 163*; Manningham Motor-Vehicle Maintenance Workshop, 296*; Signalling Exhibition, 375; Carlisle-Kingsmoor Widening, 555*
— Passenger Transport Board, Experimental Coach, 116*; Operations in 1938-44, 470
London Power Co., Ltd., Battersea Power Station Extension, 17, 42; Annual Report, 207
— Railway Plan, Report, 445, 450*
— Traffic, Report of Royal Commission, 1905, 331
— Underground Railways. See *Underground* and *London Passenger Transport Board*
— Use of Cornish Pumping Engines in, 510, 518, 619*. See *Errata*, 619
Longman, R. M., the Late, 616
Lorries. See *Motor Vehicles; Tractors*
Loxham, J., on Use of Standard Limit System, 424
Lubricant, Motor-Car Gear, Testing Machine, 114
Lubricating Oils. See *Oils*
Lubrication of Bolts and Nuts, Tests on Effects of, 409*
— Between Piston Rings and Cylinder Wall, 69*

M.

MACADAM. See *Roads*
Machinability, Conference on. See *Mechanical Engineers, Institution of*
Machine Shops. See *Works* and *Machine Tools*
— Testing. See *Testing Machines* and *Tests (Materials)*

Machine Tools :

Automatic Machine Operation, Economics of (Review), 352
Boring Jigs, Wharton, 608*
— Machine, Three-Spindle Horizontal (H. W. Kearns & Co., Ltd.), 416*
Chuck, Collet, Indexing (C. M. G. Calver, Ltd.), 67*
Coolant Oil, Magnetic Filters for (Philips Industrial (Philips Lamps), Ltd.), 105*
Cutting Fluids for Tools and Machinability, 570, 582. See 593, 599, 617
— Non-Metallic Materials, Abrasive-Wheel Machine for (A. Herbert, Ltd.), 20
Diamond Lapping Wheel, "Spedia," Tests of, 271
— Tools at Gauge and Tool Makers' Exhibition, 114
Drill, Twist, Testing Apparatus for, 544, 597*, 617
Drilling Jig, Wharton, 608*
— and Reaming Machine, Crankshaft (A. A. Jones & Shipman, Ltd.), 522*
Gauge and Tool Makers' Association, Exhibition, 42*, 65*, 113*, 136*; Work of, 279; Luncheon, 616
Grinding, Automatic Centreless Plunge, Data on (A. Scrivener, Ltd.), 283
— Machine, Centreless, Plunge-Cut (A. Scrivener, Ltd.), 21
— — Cylindrical, 10-in., (Newall Engineering Co., Ltd.), 248*
— — Face Cutter, Automatic (A. Herbert, Ltd.), 523*
— of Magnesium Castings, Regulations, 30
Holding Device for Machine Tools (Croit Engineering, Ltd.), 136
Hydraulic Press. See *Press* (below)
Jig and Fixture System, Wharton and Olding, 608*
Lapping Wheels, "Spedia," Diamond-Impregnated, Tests of (A. C. Wickman Ltd.), 271
Lathes, Capstan and Turret (Review), 5
— Hexagon Turret, for Bar Work (A. Herbert, Ltd.), 272*
— Turret, Combination, for Tool-Wear Tests, 622*
Limit Gauging. See *Gauges*
Machine-Shop Management. See *Works Management*
— Tools at Gauge and Tool Makers' Exhibition, 137
— — Industry, Position and Prospects, 197
— — Surplus, Disposal of, 303, 520. See LETTER, 594
— — Trades Association, Luncheon, 351
— Work, Tolerances in. See *Gauges*
Machining of Steel Simply Explained (Review), 436
Milling Jig, Wharton, 608*
— Machine, Vertical Knee-Type (A. Herbert, Ltd.), 486*
Press and Rolls Combined, 8,000-ton, Babcock and Wilcox, Ltd., 271*
Reaming and Drilling Machine, Crankshaft (A. A. Jones & Shipman, Ltd.), 522*
Straightening Machine, Bar and Tube (Bronx Engineering Co., Ltd.), 355*
Tools, Cutting and Machinability, 544, 569, 573*, 574*, 582, 593, 595, 596, 597*, 599*, 605, 606, 617, 620*, 621*, 622*
— — Materials for, 569, 593, 596, 622
— — Electric Furnace for (C. M. G. Calver, Ltd.), 500*
— — Lathe and Planer, Butt-Welded, Specification, 418
Turret Lathes. See *Lathes* (above)
See also PARAGRAPH INDEX
Machine Work. See *Machine Tools*
Machining of Steel Simply Explained (Review), 436
MacLeod, J., on London Midland and Scottish Railway's Turbine Locomotive, 259. See 109
Mac. See also *Mc*
Magnesium Alloys. See *Alloys* under *Metallurgy*
— Castings, Grinding of, Regulations for, 30
Magnesium Elektron, Ltd., Research on Corrosion of Magnesium Alloys, 305
— Oxide for Electrical Insulation, 31
Magnetic Filters for Coolant and Lubricating Oil (Philips Industrial (Philips Lamps) Ltd.), 105*
— Mines, Protection of Ships against, 343
— Testing for Cracks and Flaws, 302
Magnetism, Ships', and Degaussing, 343
Magnetron, Construction of, 361*
— and Klystron, Theory of, 125*, 148*, 184*
— Use in Radar, 308, 319, 367, 389
Mains, Electric. See *Cables* under *Electric*
Man-Power, Scientific, Report of Government Committee on, 565
Management of Works. See *Works Management*
Manchester Association of Engineers, Gravity Die-Casting from Engineers' Viewpoint, by M. R. Hinchcliffe, 45*
— and Sheffield, First Railway Between (Review), 52
Manhole Covers, Cast-Iron, Specification, 274
Manitoba, Electricity Supply in, 134
Mann, E. B., on Public Examinations in Engineering, 257. See LETTERS, 304, 328, 400
Manningham Maintenance Workshop for Motor Vehicles, 296*
Manufacture, Scientific Methods in. See *Works Management*
— United States, Effect of War on, 182
Marchant, Prof. E. W., on Engineering Faculties in Universities, 78
Marchbanks, M. J., on Coreless Induction Furnaces, 404
"Marflex" Flexible Fuel Cells for Aircraft, 584*
Marine Auxiliary Machinery, S.S. "Beaverdell," 511*
— — Machinery, H.M. Coastal Minesweepers, 369*
— — Machinery, M.S. "Vecta," 345*
— Boilers. See *Boilers*
— Engines. See *Engines; Turbines; Marine Propulsion*
— Engineers, Institute of, Election of Members, 10, 250, 298, 370, 490, 610; Some War-Time Examples of Repairs to Merchant Ships, by C. Bartlett, 159; Annual General Meeting and Annual Luncheon, 255; War-Time Repairs to Merchant Ships, by C. Bartlett, 477*, 502*
— — Mercantile, Training of, 17
— Engineering Construction in Canada, 487, 521
— and Engineering Exhibition, Olympia, 1947, 111
— Engineering Industry, Position and Prospects, 268
— — Introduction to (Review), 26
— — Lloyd's Statistics, 183
— — Works. See *Works*
Marine Instruments, Ltd., Film of Lord Kelvin's Career, 501
— Propulsion, Advances in Warship Machinery, 376, 402
— — Alternating-Current Turbo-Electric Plant, Developments in, 111, 142*, 166*
— — Development of Diesel Engines for, 356
— — Diesel-Electric Drive for M.S. "Vecta," 344*
— — 34,000-s.h.p. Geared Turbines, S.S. "Orcades," 130
— — Machinery Constructed During War, 268
— — 375-h.h.p. Oil Engine for Minesweepers 369*
— — Small Internal-Combustion Engines for, 537*
— — 9,000-s.h.p. Turbo-Electric Plant, S.S. "Beaverdell," 511*
— — See also *Engines; Turbines*; and PARAGRAPH INDEX
— Radio School, Woolwich, 514
— Turbines. See *Turbines, Steam; Marine Propulsion*
Markets. See *Trade* and PARAGRAPH INDEX
Marley, W. H., & Co., Ltd., "Marico" Screw-Thread Measuring Parallels, 297*
Marston Excelsior, Ltd., Flexible Fuel Cells for Aircraft, 584*
Mass and Inertia, Removal of Ambiguities Regarding, 259
— Standards of, Determination 401
Mate, R. E., on Tilt Tests from Shipbuilders' Standpoint, 499
Materials, Strength of, and Atomic Physics, 519, 558*
— — See also *Stress* and *Tests (Materials)*
Mathematics, Advanced, for Technical Students (Review), 554
Maudslay Society, Annual Meeting and Luncheon, 471
Maughling, J., the Late, 592
Maunsell, G. A., on Reinforced-Concrete Floating Docks, 231
Maxim Torpedo, 243
May Lecture on Atomic Physics and Strength of Metals, 519, 558*
Mayer, Dr. S. E., on Overheating and Burning of Steels, 496
McAlpine, Sir R., & Sons, Ltd., Widening of Gloucester-Cheltenham Railway, 30*
Hams Hall "B" Power Station, 97*
McLachlan, D. H., the Late, 616
McMenemey, W. H., the Late, 207, 232*
Mc. See also *Mac*
Meares, J. W., the Late, 65
Measurement Apparatus for Damping Capacity of Metals, 280, 358*
— — for Piston-Ring Wall Thrust, 94*
— — and Inspection Exhibition, A. Herbert, Ltd. 11, 81, 222*
Meat, Refrigerated Storage and Transport in Tropics, 453*
Mechanical Engineers, American Society of, Heat Transfer in Locomotive Boiler, by L. H. Fry, 493

Mechanical Engineers, Institution of :
Election of Members, 10, 58, 82, 226, 490, 562, 586, 610
Amalgamation with Institution of Automobile Engineers, Result of Ballot, 183. See 253. See LETTERS, 280, 304, 328, 352, 424
Report of Benevolent Fund, 306, 423
London Meetings, Winter Session :
Analysis of Lubrication Between Piston Rings and Cylinder Wall of Running Engine, by J. S. Courtney-Pratt and G. K. Tudor, 69*
Notes on Mechanical Factors Affecting Ring Gumming in Petrol Engines, by Dr. B. Pugh, 93*
Improved Method of Measuring Piston Ring-Wall Thrust, by Dr. B. Pugh, 94*
London Graduates' Section, Annual Conversazione, 135
Gray Lecture on Recent Developments in Alternating-Current Turbo-Electric Ship Propulsion, by G. O. Watson, 142*, 166*. See 111
Nomination of Officers, 183
Clayton Lecture on Whittle Jet-Propulsion Gas Turbine, by Air Commodore F. Whittle, 212*, 237*, 261*. See *Erratum*, 239
High-Pressure Gear Pumps, by T. E. Beacham, 284*, 310*, 334*. See 183, 185, 208. See LETTER, 232
Annual General Meeting, 306
Presentation of Prizes, 306
Report of Council, 306
Election of Officers, 306
Evolution of Tank Transmission, by Dr. H. E. Merritt, 353, 378
Experiment in Use of Standard Limit System, by J. Loxham, 424
Applied Mechanics Group :
Flow of Gases at Sonic and Supersonic Speeds, by Dr. G. A. Hankins and W. F. Cope, 207, 325, 329
Internal-Combustion Engine Group :
Engine Ignition Faults and New Method of Diagnosis and Location During Running, by F. R. F. Ramsay and W. Nethercot, 417
Steam Group :
Development of La Mont Boiler in Great Britain, by G. A. Plummer, 87
Operating Experience with La Mont Boilers, with Special Reference to Feed-Water Problems, by G. A. J. Begg, W. M. Hebblethwaite and G. Cooke, 87
Conference on Machinability :
Programme, 365
Reports of Discussions, 544, 569, 593, 617
Group I. (Physical Basis) :
Machinability and Structure of Ferrous Materials, by Dr. C. Sykes, 573*. See 544, 569, 593, 617
Machinability and Structure of Non-Ferrous Materials, by A. J. Murphy, 573*. See 544, 569
Mechanics of Cutting Operation, by Prof. R. N. Arnold, and Dr. G. A. Hankins, 574*. See 544, 569, 593, 617.
Group II. (Testing Methods) :
Testing Methods Using Pendulum Machines, by A. S. Kenneford, 599*. See 544, 569
Machinability Testing Apparatus and Tests Carried Out at Naval Ordnance Inspection Department, Sheffield, including Development of Drill Test by Capt. D. G. W. Curry, 597*. See 544, 569, 593, 617
Standardisation of Tools for Machinability Tests, by Lieut. C. H. Booth, 595. See 544, 569, 617
Tentative Method of Assessment of Machinability by C. W. George, 621*. See 544, 569
Tool Wear as Measure of Machinability, by C. Eatough, 622*. See 544, 569
Group III. (Cutting Conditions and Their Effects) :
Effect of Speed, Feed and Tool Angle on Machinability, by W. W. Taylor, 620*. See 569, 593, 617
Tool Materials, by J. E. Attwood, 596. See 569, 593
Cutting Fluids and Chip Breakers, by W. A. Carter, 582. See 569, 593, 617
Group IV. (Machinability in Relation to Economy of Production) :
Machinability in Heavy Engineering Production by G. M. Baker, 605. See 569, 593
Machinability in Medium Engineering Production, by L. Johnstone, 606. See 569. See 593
Machinability in Light Engineering Production, by P. C. Redwood, 606. See 570, 593
Mechanical Stoker. See *Stoker*
— Traction on Roads. See *Roads; Motor Vehicles; Tractors*
Mechanics for Engineers, Statics and Dynamics (Review), 554
— of Fluids, Elementary (Review), 506
— Soil, Practical Development of, 313*. See *Errata*, 346
Mechanisation, Coal Mines, War-Time Development, 162, 175
Mechanised Horticultural Implements, Ltd., "Atom" Semi-Crawler Tractor, 19*. See *Erratum*, 35
Mediterranean-Akaba Canal Project, 205. See LETTER, 400
Meetham, Dr. A. R., on Atmospheric Pollution in Leicester, 157
Megaw, E. C. S., on Propagation of Very Short Radio Waves, 319; on Magnetrons, 361*
Meinhart, W. L., on Effect of Nickel in Chromium-Molybdenum Steels, 287
Melchett Lecture on Team Work in Research, 21*, 33
Memorial Service, Engineers', Westminster Abbey, 207
Merchant, H. J., on Overheating of Steel Drop Forgings, 496
— Ships. See *Ships; Steamers; Motorships*
— Shipbuilding. See *Shipbuilding*
"Merlin" 130 and 131 Aero Engines, 465*
— Engine, Gravity Die Castings in, 45*
Merritt, Dr. H. E., on Evolution of Tank Transmission, 353, 378
Mersey, River, Road Tunnel under, 366
Messier Aircraft Equipment, Ltd., Three-Spindle Horizontal Boring Machine, 416*
Metals, American Society for, Effect of Nickel on Physical Properties and Thermal Characteristics of Some Cast Chromium-Molybdenum Steels, by N. A. Ziegler and W. L. Meinhart, 287
— Corrosion of. See *Corrosion*
— Creep of, Conference on, 233*, 258*
— Fatigue of. See *Fatigue* under *Tests (Materials)*
— Ferrous and Non-Ferrous, Machinability of, 544, 569, 573*, 593, 605, 606, 621*
Metals, Institute of :
May Lecture on Atomic Physics and Strength of Metals, by Prof. N. F. Mott, 558*. See 519
Annual Meeting, London :
Programme, 154
Report of Council, 259
Honorary Treasurer's Report, 259
Election of Officers, 259
Platinum Medal, Award to Lieut.-Col. Sir J. Greenly, 259
Presidential Address, by Col. P. G. J. Guterbock, 259
Reports of Discussions, 280, 305
Intercrystalline Corrosion by Sodium Chloride of Wrought Aluminium Alloy Containing 4 per cent. of Copper, by J. D. Grogan, 280
Some Experiments on Effects of Residual Stresses on Fatigue of Aluminium Alloys, by G. Forrest, 280
Computations of Rolling Load, Torque and Roll-Face Pressure in Metal Strip Working, by Dr. M. Cook and E. C. Larke, 281
Influence of Some Different Surface Preparations on Corrosion of Magnesium-Base Alloys of Low and Normal Iron Content, by F. A. Fox and C. J. Bushrod, 305
Equilibrium Relations and Some Properties of Magnesium-Lithium and Magnesium-Silver-Lithium Alloys, by Drs. W. Hume-Rothery, G. V. Raynor and E. Butchers, 305
Damping Capacity and Fatigue of Metals, by Dr. R. F. Hanstock and A. Murray, 358*, 381*. See 280
Reaction of Aluminium-Magnesium Alloy with Water Vapour and Absorption of Hydrogen, by R. Eborall and Dr. C. E. Ransley, 428*, 438. See 305
Paper for Written Discussion :
Mechanical Properties of Chill-Cast Phosphorus Bronze, by Dr. K. Winterton, 153
Metals, Non-Ferrous, Research Association, British, Investigation on Reaction of Aluminium-Magnesium Alloy with Water Vapour, by R. Eborall and Dr. C. E. Ransley, 305, 428*, 438
— Sheet, Basis of Drafting (Review), 267
— Strength of, and Atomic Physics, 519, 558*
— Strip Rolling, Computations of Rolling Load, Torque and Roll-Face Pressure, 281
— Structure of. See *Metallography; Microphotographs*
— Welding. See *Welding*
— See also *Metallurgy; Microphotographs*
Metallography, Dictionary of (Review), 267
— See also *Metallurgy; Microphotographs*
Metallurgy :
Alloy, Aluminium-Copper, Corrosion by Sodium Chloride, 280
— — Damping Capacity and Fatigue of, 280, 358*, 381*
— — Deep-Drawing and Pressing of, 261
— — Effect of Residual Stresses on Fatigue, 280
— — Forgings and Stampings, Manufacture of, 138
— — Magnesium, Reaction with Water Vapour, 305, 428*, 438
— — Secondary, Development Organisation, Formation of Aiar, Ltd., 55, 587
— Copper-Chromium, Electrodes for Spot-Welding Machines, 618
— — For Use of Services, Specification, 10
— — See also *Brass; Bronze, etc.*
— for Gravity Die-Castings, 45*
— Machinability of, 544, 569, 573*, 593, 605, 606, 621*
— Magnesium, Corrosion of, Effect of Surface Preparation, 305
— — Damping Capacity and Fatigue, 381
— — Ingots and Castings, Specification, 250
— — Silver-Lithium, Properties of, 305
— Silver-Bearing, Modern Applications, 618
— Strength of, and Atomic Physics, 558*
— Tin-Zinc, Electrodeposition of, 427
— — Zinc, Electrodeposited, Corrosion-Resistance Properties of, 289*
— Zinc, Polarographic and Spectrographic Analysis of, 130
Brass. See *Brass*
Bronze. See *Bronze*
Cast Iron. See *Cast Iron*
Corrosion of Metals. See *Corrosion*
Equilibirum Relations of Magnesium-Silver-Lithium Alloys, 305
Foundrywork. See *Moulding*
Metallurgy—*continued.*
Furnaces, Electric. See *Furnaces*
— Metallurgical. See *Furnaces*
Hatfield, Dr. W. H., Services to Metallurgy, 461
Heat Treatment, Gas Carburising Plant (Incandescent Heat Co., Ltd.), 488*
Metals, Tests of. See *Tests (Materials)*
Metallography, Dictionary of (Review), 267
Metallurgical Analysis by Spectrograph, Collected Papers on (Review), 26
— Education, Plans for, 476, 485
— Products Exhibition, Johnson, Matthey & Co., Ltd., 618
Metallurgy Division Exhibition, Royal Aircraft Establishment, 236
— Dr. W. H. Hatfield's Services to, 461
— Mond Fellowships in, 255
Refractories. See *Fireclay*
Rolling Mills. See *Rolling Mills*
Steel Furnaces. See *Furnaces*
Welding. See *Welding*
See also *Iron and Steel Institute; Metals Institute of; Metallography; Microphotographs;* and PARAGRAPH INDEX
Meteorological Observations in Arctic Region, 330
— Observatory, Zicawei, Shanghai, 602*
Meteorology, Cold Weather, Effect on Electricity Supply, 135
— Radio, Elements of, 319
Meter, British Thermal Unit, Distant-Reading (Elliott Brothers (London), Ltd.), 91*
— Moisture, for Grain (Mullard Wireless Service Co., Ltd.), 89
— — for Yarn (Record Electrical Co., Ltd.), 89
— See also *Electric*
Metrology, Symposium on, 401
Metropolitan Railway, London, Experimental Coach, 116*
Metropolitan-Vickers Electrical Co., Ltd. Light-Duty Spot-Welding Machine, 60*; Research Department, Production of Atomic Energy, 75*, 100; Plant Constructed in 1945, 124; 3,000-h.p. and 6,500-h.p. Induction Motors, 152*; Electrification of Flour Mill, 199*; War Work, 447; Investigations on Dynamical Balancing of Motors, 481*, 529*; Marine Radio School, 514; 200-Million Volt Batatron, 583
— Water Board, Report on Proposals for Greater London Water Area, 110; Cornish Engine at Kew Bridge Pumping Station, 518, 619*
— See also *London*
Mexico, Hydraulic Work in, 427
Micanite for Commutator Separators, Specification, 466
Michie, A. C., on International Research on Transformer Oils, 379
Microfilm Service for Documentary Reproduction, Future of, 135
Microphotographs, Creep Fatigue of Molybdenum Steel, 233*
— Diamond-Pyramid Hardness Impressions, 286*
— Influence of Structure on Machinability of Aluminium Alloys, 574*
— Sintered Metallic Powders for Electrical Contacts, 190*
— Tin-Coated Cast Iron, 527*, 550*
— Welds in Magnesium Alloy, 428*
Microscope, Electron, and Electron Optics (Review), 340
— Tool-Setting (Optical Measuring Tools, Ltd.), 42*
Microscopic Sampling for Portland Cement, 458, 484. See *Erratum*, 496
Microstructure of Metals. See *Metallography; Microphotographs*
Miles Aircraft Co., Ltd., "Gemini" Aeroplane, 174*
Mill, Flour, Electrification of (Metropolitan-Vickers Electrical Co., Ltd.), 199*
— Rolling. See *Rolling Mills*
Milling Machines and Cutters. See *Machine Tools*
Mines, Coal. See *Collieries*
— Department, Advisory Mechanisation Committee, Work of, 162, 175
— Flameproof Switchgear for (British Thomson-Houston Co., Ltd.), 317*
— Magnetic, Protection of Ships Against, 343
— Owners' Research Association, Fluorescent Lighting in Binley Colliery, 522
— United States Bureau of. See *United States*
— Warfare, Marine, Model Experiments in, 449
— See also *Coal; Collieries; Mining;* and PARAGRAPH INDEX
Mineral Oils. See *Oils*
— See also *Coal; Mining;* and PARAGRAPH INDEX
Minikin, R. R., on Practical Development of Soil Mechanics, 313*. See *Errata*, 346
Mining Association of Great Britain, Report on Utilisation of Low-Grade Fuels, 133. See LETTER, 304
— Engineers, Institution of, Annual Dinner, 159
— — Modern Underground Haulage Methods for, Manual of (Review), 52
— Equipment, Electrically-Operated, 226
— Machinery, Provision of, 293
— See also PARAGRAPH INDEX
Ministry of Labour and National Service. See under *Labour*
— of Supply. See *Supply*
— of Transport. See *Transport*
— of War Transport. See *Transport*
Mirrlees, Bickerton & Day, Ltd., 720-b.h.p. Twelve-Cylinder V-Type Oil Engine, 560*
Missouri River, Flood Control and Irrigation System, 594
Mitchell, F., & Son, Ltd., Cooling Towers, Hams Hall "B" Power Station, 98*
M.O. Valve Co., Work on Magnetrons, 361*
Model Experiments. See *Aeronautics; Tank Experiments*
— Geological, Kentucky Dam Site, 338*
Moisture Meter for Grain (Mullard Wireless Service Co., Ltd.), 89*
— — for Yarn (Record Electrical Co., Ltd.), 89
Mond Nickel Co., Ltd., Fellowships in Metallurgy, 255
Monkhouse, Lieut.-Col. S. E., on Electricity Supply on North-East Coast, 270
Monoplane. See *Aeronautics*
Monrovia, Liberia, Port Development, 7
Morgan, Dr. A. E., Kentucky Dam Scheme, 337*, 385*, 433*
Morley, A., on Public Examinations in Engineering, 304. See 257. See LETTERS, 318, 400
Morrison, Dr. J. L. M., on Loads on Bolts, 400*
Morrogh, H., on Single-Blow Impact Test for Cast Iron, 117*
Moss, H., on Cathode-Ray Rubes for Radar, 367
Motion and Time Study, Manual of (Review), 316
Motor-Car Engines. See *Engines, Petrol*
— — Engineers. See *Automobile Engineers*
— — Industry in Italy, 295
— — Legislation, Early, 309, 331
— — Prices of, 101. See *Errata*, 216
— — See also *Motor Vehicles; Motor Cycles;* and PARAGRAPH INDEX
— Cycle Industry, Position and Prospects, 101. See *Errata*, 216
— Electric, Constructed in 1945, 124
— — Direct-Current Split-Field (H. Hughes & Son, Ltd.), 42*
— — Induction, for Carding-Machine Drive (D. Brown & Sons (Huddersfield), Ltd.), 368*
— — Induction, 6,500-h.p. and 3,000-h.p. for Pumping Plant, South Africa (Metropolitan-Vickers Electrical Co., Ltd.), 152*
— — Micanite for Commutator Separators, Specification, 466
— — Propulsion, 9,000-s.h.p., S.S. "Beaverdell," 511*
— — Propulsion, 630-s.h.p., M.S. "Vecta," 344*
— — 2,200-h.p. for Pumped-Storage Plant, Pali, 536
— — for Turbo-Electric Propulsion, 111, 142*, 166*
— — Two-Phase Induction, High-Frequency (Admiralty Naval Compass Department), 81*
— Fishing Vessels, Admiralty-Type, 520
— Industry Research Association, Inauguration, 615
— Internal-Combustion. See *Aeronautics: Engines; Motor Cars; Tractors*
— Lorries. See *Motor Vehicles*
— Marine. See *Engines; Marine Propulsion; Motorships*
— Petrol. See *Aeronautics; Engines, Petrol*
— Plough. See *Tractors*
— Tractors. See *Tractors*
— Vehicles, Commercial, Five Decades of, 309, 331, 341, 365, 462, 548, 571, 604. See *Erratum*, 331
— — Development, by J. I. Thornycroft & Co., Ltd., 543
— — Industry, Position and Prospects, 101 See *Errata*, 216
— — Manningham Maintenance Workshop for, 296*
— Wagons. See *Motor Vehicles; Tractors*
Motorships under Construction, Lloyd's Statistics, 447
— Fishing, Admiralty-Type, 520
— Launched in 1945, Lloyd's Statistics, 183, 268
— Oil-Tank, "Neverita," Sagging Tests of, 509
— — Tank, War-Time Repairs to, 477*, 502*
— "Vecta," Diesel-Electric Drive for, 344*
— See also *Marine Propulsion*
Mott, Prof. N. F., on Atomic Physics and Strength of Metals, 558*. See 519
Moulds for Gravity Die-Casting, 45
Mouldings, Plastic, Technical, Definition of, 322
— Sands, Hot-Strength Characteristics of, 190*
Mount Edgcumbe, Earl of, Election as Honorary Member of Institution of Electrical Engineers, 87
"Mulberry" Harbour, Model Experiments for, 473
Mullard Wireless Service Co., Ltd., Moisture Meter for Grain, 89*; Cathode-Ray Oscillographs, 90
Multitubular Boilers. See *Boilers*
Municipal Electrical Association, Incorporated, Jubilee Convention, Blackpool, Programme, 519; Objections to Nationalisation of Power Supply, 615
Munitions Production and Engineering Industry, 27, 77, 101, 123, 149, 197, 220. See *Errata*, 216
Murex, Ltd., Repair of Rolling-Mill Pinion by Thermit Welding, 32*
Murphy, A. J., on Machinability and Structure of Non-Ferrous Materials, 573*. See 544, 569
Murray, A., on Damping Capacity and Fatigue of Metals, 358*, 381*. See 280
Murray, J. M., Pietzker's Effective Breadth of Flange, 364*. See LETTERS, 400, 448
Museum, Science, Aeronautical Collection, Reopening of, 345
— Technical, Stockholm, British Scientific Instruments Exhibition, 227, 591

N.

NAPIER, D., & SON, LTD., "Sabre" Aero Engine, 79*
National Industrial Development Council of Wales and Monmouthshire, Welsh Industries Fair, Cardiff, 581, 607
— Physical Laboratory, Exhibits at Physical Society's Exhibition, 65*; Experiments on Flow of Gases at Supersonic Speeds, 207, 325, 329; Creep Investigation, 233*, 258*; Investigation of Intercrystalline Corrosion of Aluminium-Copper Alloy by Sodium Chloride, 280; Pamphlet on Tests on Volumetric Glassware, 321*; Work on Standards, 401; Investigation on Refrigerated Transport of Meat in Tropics, 453*; Model Experiments for "Mulberry" Harbour, 473; Metallurgical Investigations, 476, 485; Exhibition of Equipment, 591
— Trades Technical Societies, Inspection Equipment Exhibition, Newcastle-upon-Tyne, 39, 107

Nationalisation of British Railways, 278. See LETTER, 328
— of Commercial Road Transport, 366, 462, 548, 571, 604
— of Electricity Supply, 303, 615
— of Iron and Steel Industry, Government Policy, 397, 446, 471, 517
Naval Aeronautics. See *Aeronautics*

Naval Architects, Institution of:
Establishment of Watts' Prize, 327
Annual General Meeting:
Programme, 297
Report of Council, 352
Election of Officers, 353
Annual Dinner, 353
Presidential Address, by Lord Chatfield, 353. See 349.
Reports of Discussions, 353, 376, 402, 425, 432, 449, 473, 498 520,
Royal Navy at Outbreak of War, by Sir S. V. Goodall, 376, 402. See 353
Repair and Upkeep of H.M. Ships and Vessels in War, by G. A. Bassett, 405*, 414, 437. See 353, 402
Developments in Instruments for Measurement of Strains and Deflections in Ship Structures, by F. B. Bull, 425
Tests and Their Results, by R. B. Shepheard and J. Turnbull, 425
Some Model Experiments in Connection with Mine Warfare, by R. W. L. Gawn, 449
Experiments with Models of Cargo Liners in Gothenburg Tank, by Prof. A. F. Lindblad, 449
Model Experiments Carried Out in Connection with the "Mulberry" Harbour, by Dr. F. H. Todd, 473
Craft and Cable Ships for "Operation Pluto," by M. K. Purvis, 473
Under-Water Paints and Fouling of Ships, by Prof. J. E. Harris and W. A. D. Forbes, 498
Tilt Tests from Shipbuilders' Standpoint, by R. E. Mate, 498
Work of Admiralty Ship Welding Committee, by Sir A. L. Ayre and G. M. Boyd, 500, 549. See 425
Merchant Shipbuilding in Canada, by J. Robson, 461, 487, 525. See 520
Admiralty-Type Motor Fishing Vessels, by W. J. Holt, 520
Further Notes on Theoretical Calculation of Wave Profiles and of Resistance of Hulls, by Dr. R. Guilloton, 532
Dynamical Longitudinal Strength of Ships, by Dr. J. L. Taylor, 532
Naval Architecture. See also *Warships*
— Warfare. See *Warships*
Navigation, Aerial. See *Aeronautics*
— on Columbia River, 590
— Hyperbolic, 111
— Improvements on Yangtze River, 303
— Lights, Electrically-Controlled (Londex, Ltd.), 522
— Marine, Radio Aids to, Conference and Demonstration, 423, 451
— Use of Radar, 306, 389
Navy, British. See *H.M.* under *Warships*
— German. See *German* under *Warships*
— United States. See *United States* under *Warships*
— See also *Naval; Warships;* and PARAGRAPH INDEX
Needham, W., on Silicon-Carbide Non-Ohmic Resistors, 295
Neill, J., Ltd., Electrically-Driven Flour Mill, 199*
Nethercot, W., on Diagnosis of Engine Ignition Faults, 417
Netherlands, Patents for Inventions, During 16th, 17th and 18th Centuries (Review), 340
"Neverita," Welded Oil Tanker, Sagging Tests of, 425, 509
New Year Honours List, 15, 63, 87
— Zealand Government Railways, Annual Report, 447
Newall Engineering Co., Ltd., Roller Screw-Thread Gauge, 67*; Dial-Reading Calliper Gauge, 68*; 10-in. Cylindrical Grinding Machine, 248*
Newcastle-upon-Tyne, Inspection Equipment Exhibition, 39, 107
Newcomen Society, The Thermostat: An Outline of its History, by A. R. J. Ramsey, 391, 413; Summer Meeting at Watford and St. Albans, 501
Nickel in Chromium-Molybdenum Steels, Effect of, 287
Nimmo, H., on Implications of Voltage Standardisation, 571
Non-Conducting Coverings. See *Heat Insulation*
— Ferrous Metals. See *Metals; Metallurgy*
Normals to Plane Curves, Drawing of, 209*
North America, Engineering Notes from, 7, 246, 330, 534, 594
— British Railway, Centenary of, 566, 567
— East Coast, Electricity Supply, 270
— — Coast Exhibition of Inspection Equipment, 39, 107
— — Coast Industries and Coal Processing, 62
— — Coast Institution of Engineers and Shipbuilders, Electricity Supply on North-East Coast, by Lieut.-Col. S. E. Monkhouse, 270; Election of Officers, 449. *Students' Section*, Engines and Engineers, by C. C. Pounder, 333, 356
— — Engineering Bureau, Annual Report, 111
— Notes from, 11, 35, 59, 83, 107, 131, 155, 179, 203, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611. See PARAGRAPH INDEX
Northern Aluminium Co., Ltd., Research on Fatigue of Aluminium Alloys, 280
— Industrial Group, Reports of Coal Processing Panel, 62
Notched-Bar Tests. See *Tests (Materials)*
Notes. See *Cleveland; North; South-West; South Yorkshire; Labour;* See also PARAGRAPH INDEX
— on New Books. See *Books* and LITERATURE INDEX
Nozzles, Steam Turbine, Application of Supersonic Air Flow to, 207, 325, 329
Nuclear Physics and the Future, 423
Nuts, Die, Hexagon, Specification, 34
— Theory of Locking on Bolts, 16. See LETTERS, 39, 112, 161
— Tightening of, Load on Bolt Due to, 409*
Nutting, J., on Overheating and Burning of Steels, 496

O.

OATLEY, C. B., on Ultra-High Frequency Measurements, 367

Obituary.
Baird, J. L., 592
Briggs, R. H., 30
Bruff, H. J. L., 185
Burne, E. L., 592
Campbell, A., 280
Clark, G. M., 136
Coker, Prof. E. G., 476
Corthesy, J., 130
Devonshire, Sir J., 400
Dolby, E. R., 496
Dunn, W. T., 400
Fairhurst, T. W., 616
Field, A. E., 249
Garvie, H. T., 328
Grieg, E. C., 491
Hodge, R., 534
Lacey, J. M., 88
Lanchester, Dr. F. W., 256*
Liardet, A. A., 185
Longman, R. M., 616
Maughfling, J., 592
McLachlan, D. H., 616
McMenemey, W. H., 207, 232*
Meares, J. W., 65
Pam, Lt.-Col. E., 11
Parkinson, Dr. F., 112
Reid, G. U., 616
Samuelson, F., 112
Tudsbery, Col. H. T., 232
Wilson, M. F. G., 17
Wilson, R., 183
Observatory, Greenwich, Removal to Hurstmonceux Castle, 414
Offices, Government, Underground, Emergency, 92
Oil Consumption, Effect on Piston-Ring Gumming in Petrol Engines, 93*
— Coolant and Lubricating, Magnetic Filters for (Philips Industrial (Philips Lamps), Ltd.), 105*
— Deposits in Chile, 342
Oil Engines (Coventry), Ltd., 12-h.p. Opposed-Piston Marine Oil Engine, 537*
— — See *Engines, Oil; Motor Vehicles; Tractors*
— Fuel Plant for 2,500-kW Transportable Power Station, 463*
— — Shortage in Germany near End of War, 613
— Lubricating, Used, Filtration of, Researches on, 5
— Motors. See *Engines, Oil; Motor Vehicles; Tractors*
— Production from Coal in United States, 422
— — by Hydrogenation, 447
— Switches. See *Switchgear*
— Tractors. See *Tractors*
— Transformer, Researches on, 370
— Viscosity and Cylinder Lubrication, 70*
— See also *Lubrication; Petroleum*
Oliphant, Prof. M. L., on Nuclear Physics and the Future, 423
"Olna," Royal Fleet Auxiliary, Turbo-Electric Propulsion, 166*
Olympia. See *Exhibition*
O.M.T. Microscopes and Tilting Table, 42*
Ontario, Electricity Supply in, 134
— Hydro-Electric Power Commission's Annual Report, 38
— Schreiber Pulp and Paper Mill, 594
Optical Apparatus, Physical Society's Exhibition, 15, 40, 89*, 114*
— Instruments in Engineering (Review), 316
— Measuring Tools, Ltd., Tool-Setting Microscope, 42*; Tool-Makers' Microscope, 42*; Optical Tilting Table, 43*
Optics, Electron, and Electron Microscope (Review), 340
"Orcades," S.S., Orient Liner, Construction of, 130
Orlit, Ltd., Concrete House Construction, 332
Oscillograms of Piston Ring and Cylinder Wall Contact, 70*
Oscillograph. See *Electric*
Overhead Lines, Power Transmission, Central Electricity Board's Report, 374
— — Power Transmission, Emergency Repairs to, 57*
— — Power Transmission, Petersen Coils for, 252
— — Power Transmission, Single-Phase, for Rural Districts, 390
— — Power Transmission, Telecommunication by (Review), 532
Overseas Trade Department, Dissolution of, and Formation of Export Promotion Department, 322
Outlook, Engineering, Economic Review, 27, 53, 77, 101, 123, 149, 172, 197, 220, 244, 268, 292. See *Errata*, 216
Oxford-Airey Machinability Testing Machine, 599*
Oxford University, Research on Magnesium-Silver-Lithium Alloys, 305
Oxidation of Metals and Atomic Physics, 519, 558*
— of Transformer Oils, 379
Oxy-Acetylene Welding. See *Welding*

P.

PACIFIC Ocean, North East, Seismic Sea Waves in, 484
Paint, Under-Water, and Fouling of Ships, 498
— and Varnishes, Tins for, Specification, 586
Paintings of Buildings, Specification, 538
— Staining and Varnishing Wood, Specification, 490
Palestine, Akaba Canal Project, 205. See LETTER, 400
Palu Hydro-Electric Station, Pumped-Storage Plant at, 536*
Pam, Lt.-Col. E., the Late, 11
Paper and Pulp Mill, Schreiber, Lake Superior, 594
Paraguay, Engineering Notes from, 270
Parallels, Screw-Thread Measuring (W. H. Marley & Co., Ltd.), 297*
Paris Meeting of International Conference on Large High-Tension Networks, 231
Parker, Col. T. B., Kentucky Dam Scheme, 337*, 385*, 433*
Parkinson, Dr. F., the Late, 112
"Parlanti" Process for Gravity Die-Casting, 47
Parliamentary and Scientific Committee, Annual Luncheon, 111
Parnum, Dr. D. H., on Underwater Measurements of Magnetic Field, 343
Parsons, C. A., and Co., Ltd., 50,000-kW Turbo Generators for Hams Hall "B" Power Station, 97*; 9,000-s.h.p. Turbo-Electric Plant, S.S. "Beaverdell," 511*
— and Marine Engineering Turbine Research and Development Association, Proposed Activities, 269
— Turbines. See *Turbines, Steam; Marine Propulsion*
Passenger Class Distinctions on Railways (Review), 603
Patents, German, Control of, Report on, 229
— for Inventions in Netherlands During 16th, 17th and 18th Centuries (Review), 340
— Record, 24*, 48*, 72*, 96*, 120*, 144*. (See *Erratum*, 192), 168*, 192*, 216*, 240*, 264*, 288*, 312*, 336*, 360*, 384*, 408*, 432*, 456*, 480*, 504*, 528*, 552*, 576*, 600*, 624*. See PATENT RECORD INDEX
Patrick Torpedo, 243
Payne, Capt. M., Work on Thermostats, 413
Pearce, J. G., on Cast Iron in Building and Engineering, 351
Peat Fuel for Steam Heating Plant, Experiences with, 223
Pendred, L. St. L., Retirement of, 303
Penn, J., & Sons, Workshops of, 17
Pennsylvania Railroad, 6-8-6 Type Turbine Locomotive, 355; 4-4-6-4 Type Locomotives, 355
Personal, 10, 34, 58, 82, 106, 130, 154, 178, 202, 226, 250, 274, 298, 322, 346, 370, 394, 418, 442, 466, 490, 514, 538, 562, 586, 610
Personnel Management; Its Scope and Practice (Review), 171
Peru, Engineering Notes from, 29, 270, 342, 534
— Road Construction in, 255
Petersen Coil, Use in Electricity-Supply Networks, 252
Petrol Carburettors. See *Carburettors*
— Motors. See *Aeronautics; Engines, Petrol*
— Tractors. See *Tractors*
Petroleum, Institute of, General Discussion on "Transformer Oil," Contribution of E.R.A. to International Research on Transformer Oils, by P. W. L. Gossling and A. C. Michie, 379; Developments in Refining of Transformer Oils, by J. Wood-Mallock, 379; Mechanisms of Oxidation of Liquid Hydrocarbons, by F. George and A. Robertson, 379; Oxidation and Anti-Oxidation, by E. A. Evans, 380; Testing of Transformer Oils, by A. A. Pollitt and C. H. Barton, 380; Influence of Condenser Water Temperature on Sludging Value of Transformer Oil, by P. W. L. Gossling and J. Rommey, 380
— Warfare Department, Researches on Flame Throwers and Fog Dispersal, 23, 33
— See also *Oil; Engines, Oil*
Petters, Ltd., 1¼-h.p. to 10-h.p. Industrial Petrol Engines, 139; 375-b.h.p. Oil Engine for H.M. Minesweepers, 369*; 3-h.p. Single-Cylinder Marine Petrol Engine, 537*
Philips Industrial (Philips Lamps), Ltd., X-Ray Diffraction Unit, 40; Magnetic Filters for Coolant and Lubricating Oil, 105*
Photographic Reconnaissance and Invasion of England, 566, 590
Photometers, Portable, Photo-Electric, Specification, 154
— Portable, Specification, 298
Photomicrographs. See *Microphotographs*
Physical Laboratory. See *National Physical*
— Quantities, Instruments for Measuring, 199
— Society's Exhibition of Apparatus, 15, 40*, 89*, 114*
Physics, Atomic Energy, Industrial Application of, 327
— — Energy, Production of, 75*, 100
— — and Strength of Metals, 519, 558*
— Institute of, Inauguration of Industrial Spectroscopic Group, 68, 114; Election of Members, 250, 298, 370, 394; Annual Report, 453
— Nuclear, and the Future, 423
— Short-Wave Radio Emission from Sun, 164. See LETTER, 232
— See also *Physical Society* and PARAGRAPH INDEX
Pickles, J. S., on Single-Phase System for Rural Electrification, 390
Piers, Bridge, in Tidal Estuaries, Effect of, 241*
Pierce, J. A., on Hyperbolic Navigation, 111
Pietzker's Effective Breadth of Flange Re-examined, 364*. See LETTERS, 400, 448
Pile, Uranium, Construction of, 100
Piling, Reinforced-Concrete, for Railway Bridge over River Eden, 556*
— Steel Sheet, Kentucky Dam Construction, 434*
Pinions. See *Gears*
Pipes, Asbestos-Cement, Specification, 34
— Bend Angles, Formulæ for Calculation, 507*
— Lead, Specification, 394
— See also *Tubes*
Pipeline, "Pluto," Across English Channel, Experiments on Craft for, 473
Piston Ring and Cylinder Wall, Lubrication Between, 69*
— — Gumming in Petrol Engines, 93*
— — Thrust on Cylinder Wall in Petrol Engine, Measurement of, 94*
Plasterboard, Gypsum, Specification, 58
Plastering, Calcium Sulphate, Specification, 466
Plastic Technical Mouldings, Definition of, 322
Plastics for Electrical and Radio Engineers (Review), 482
— Extensometer for, 241*
Plating, Electro. See *Electro*
— Ship, and Pietzker's Effective Breadth of Flange, 364*. See LETTERS, 400, 448
Platinum Medal, Award to Lieut.-Col. Sir John Greenly, 259
Plough, Motor. See *Tractor*
Plowden & Thompson, Ltd., Glass Tubing Manufacture, 222
Plummer, G. A., on Development of La Mont Boiler in Great Britain, 87
"Pluto" Pipeline Across English Channel, Experiments on Craft for, 473
Plymouth Power Station, Emergency Repairs to, 57
Political and Economic Planning, Report on Market for Household Appliances, 85. See LETTER, 136
Pollitt, A. A., on Testing of Transformer Oils, 380
Pollution; Atmospheric, and Domestic Fires, 140, 157
— — in Leicester, Report on, 157
Polytechnic. See *Education*
Pontoons, Steel, for Floating Dry Docks, United States Navy, 145*, 193*, 267
Porosity in Magnesium Alloys, Investigation o , 305, 428*, 438
Port Development, Monrovia, Liberia, 7
— Light, Marine (Chance Brothers, Ltd.), 40
— of Santos, Equipment of, 427
Portable Engine. See *Engine*
— Machine Tools. See *Machine Tools*
Portland Cement. See *Cement*
Post Office Research Station, Dollis Hill, Work of, 524
Potts, W. C., Neutralisation of Ships' Magnetism by Coil Degaussing, 343
Pounder, C. C., on Engines and Engineers, 333, 356
Powder, Sintered Metallic, for Electrical Contacts, 188*
— Technology Applied to Cement, 457*, 483*. See *Erratum*, 496
Powdered Coal. See *Pulverised Fuel*
Power, Atomic Energy as Possible Source, 327
Power Jets, Limited, Whittle Jet-Propulsion Gas Turbine, 212*, 237*, 261*. See *Erratum*, 239
Power Jets (Research and Development), Ltd., Staff Disagreement with Ministry of Supply, 375
— Manual, Production of Electrical Energy by, 553*
— Plant, Hydro-Electric, Aquasabon River, Ontario, 594
— — Hydro-Electric, in Canada, Report, 134
— — Hydro-Electric, Kentucky Dam, 337*, 385*, 433*
— — Hydro-Electric, Palu Pumped-Storage Plant, 536*
— — Hydro-Electric, St. Lawrence River Scheme, 350
— — Hydro-Electric, Yangtze] River, Scheme, 7, 303
— — See also *Power Stations; Power, Water; Substations*
— Press. See *Machine Tools*
— for Ship Propulsion. See *Marine Propulsion*
— Transmission Overhead Lines, Central Electricity Board's Report, 374
— — Overhead Lines, Emergency Repairs, 57*
— — Overhead Lines, Petersen Coils for, 252
— — Overhead Lines, Single-Phase, for Rural Districts, 390
— — Overhead Lines, Telecommunication by (Review), 532
— — See also *Gears; Marine Propulsion*
— Station, Electric, Battersea, Extensions to, 17, 42
— — Electric, Castle Meads, Segmental Ash-Plate for Chain-Grate Stoker, 294*
— — Electric, Central Electricity Board's Report, 373, 399
— — Electric, and District Heating, 140
— — Electric, Future of, 206
— — Electric, Generating Plant for, 124
— — Electric, Hams Hall "B," Birmingham, 97*
— — Electric, North-East Coast, 270
— — Electric, Plymouth, Emergency Repairs to, 57
— — Electric, Questionnaire on Capital Expenditure, 15
— — Electric, Supply of Fuel for, 133. See LETTER, 304
— — Electric, 2,500-kW Transportable (Richardsons, Westgarth & Co., Ltd.), 463*
— — Electric, United States, for China, 594
— — See also *Power Plants; Substations*
— Supply, Electric, Birmingham, 97
— — Electric, in Canada, Report, 134
— — Electric, Central Electricity Board's Report, 373, 399
— — Electric, Characteristics of Domestic Load, 398
— — Electric, Companies' Five-Year Development Programme as Alternative to Nationalisation, 615
— — Electric, to Customers, Fundamental Legislation for, 181
— — Electric, Distribution and Utilisation of (Review), 267
— — Electric, Electricity Commissioners' Statistics, 63
— — Electric, Effect of Cold Weather on, 135
— — Electric, Effect of Daylight Illumination, 158
— — Electric, Future of, 206
— — Electric, for Horseferry Road Citadel, 92
— — Electric, by London Power Co., Ltd., 207
— — Electric, by Manual Power, 553*
— — Electric, Objections to Nationalisation 303, 615
— — Electric, on North East Coast, 270
— — Electric, in Ontario, 38
— — Electric, Questionnaire on Capital Expenditure, 15
— — Electric, Reduced Coal Stocks, 375, 615

Power Supply, Electric, Single-Phase, for Rural Districts, 390
— — Electric, Southampton, Jubilee of, 500
— — Electric, Standardisation of Low-Pressure Distribution Voltages, 159. See 571
— — Electric, by Tennessee Valley Authority, 337*, 385*, 433*
— — Electric, in United States, 535
— Water. See *Hydraulic; Power Plants, Hydro-Electric; Turbines, Hydraulic*
Pneumatic. See *Compressed Air; Air Compressor*
Precision Grinding, Ltd., Cam-Measuring Machine, 113*; Profilescope, 113*; Taper-Checking Anglemeter, 113*
Preece, A., on Overheating and Burning of Steels, 496
Presidential Address to Institution of Naval Architects, by Lord Chatfield, on Shipbuilding Industry, 353. See 349
— — to Iron and Steel Institute, by Dr. C. H. Desch, on Science and Steel Industry, 476, 485. See 448.
Press. See *Machine Tools*
Pressing of Aluminium Alloys, 261
Preston Scholarships and Fellowships in Textile Technology, 519
Price, R. A., on Protection of Structures Against Lightning, 127
Process Control, Industrial, Principles of (Review), 5
Producer Gas Fuels for Transport, Testing of, Specification, 82
Profilescope (Precision Grinding, Ltd.), 113*
"Prometheus," H.M. Cruiser, Voyage of, 579
Propellers, Aerial. See *Aeronautics*
Propulsion of Ships. See *Marine Propulsion; Engines; Turbines*
Pryce, Dr. M. H. L., Wave Guides in Radiolocation, 319
Publications, Technical, Motor Transport, Establishment of, 331
Pugh, Dr. B., on Piston-Ring Gumming in Petrol Engines, 93*; on Measuring Piston-Ring Wall Thrust, 94*
Puleston, R., on Cathode-Ray Tubes for Radar, 367
Pulp and Paper Mill, Schreiber, Lake Superior, 594
Pulverised-Fuel Plant, Hams Hall "B" Power Station, 98*
Pumps, Air. See *Air Compressors*
— Centrifugal, 65,000-h.p., for Grand Coulee Irrigation Scheme, 7
— — High-Lift, at Palü, Switzerland (Sulzer Brothers), 536*
— — for the Rand (W. H. Allen, Sons & Co., Ltd.), 152*
— Gear, High-Pressure, 183, 185, 208, 284*, 310*, 334*. See LETTER, 232
— — Rotary, High-Pressure (B. & P. Swift, Ltd.), 8*
— Turbine, Two-Stage (W. H. Allen, Sons & Co., Ltd.), 152*
Pumping Plant, Palü Hydro-Electric Station, 536*
— — for Zwartkopjes and Vereeniging (W. H. Allen, Sons & Co., Ltd.), 152*
— Station, Kew Bridge, Cornish Engines at 518, 619*
Purvis, M. K., on Craft and Cable Ships for "Operation Pluto," 473
Pye, C. R., on Film-Forming Materials Used in Insulation, 7
Pye Ltd., Television System, 104
Pyle, B. C., on Deformation of Alternator-Rotor Windings, 14

Q.

QUALITY Control, Society for, 95
Quebec, Electricity Supply in, 135
"Queen Elizabeth," H.M. Battleship, Reconstruction of, 376, 402
Queen's Park Experimental Railway Station, 163*

R.

RADAR, Evolution of, 306; Aerials for, 319; Wave-Guides for, 319; Extratropospheric Influences on, 319; Cathode-Ray Tubes for, 319, 367; Magnetrons for, 361*. See also 125*, 148*, 184*; Precision Radar, 367; Shipborne Radar, 689; Transmitters for, 389; Receivers for, 389; Circuit Techniques in, 389; Radar Navigation, 389; Demonstration of Radar Navigation Equipment, 423, 451
Radio Aids to Marine Navigation, Conference and Demonstration, 423, 451
— Communication, Magnetrons for, 361*. See also 125*, 148*, 184*
— — on United States Railways, 327
— Components, Specifications, 274
— and Electrical Engineers, Plastics for (Review), 482
— Emission, Short Wave, from Sun, 164. See LETTER, 232
— Engineers of America, Institute of, New York Convention, Hyperbolic Navigation, by J. A. Pierce, 111
— Engineering, New Dielectric and Insulating Materials in, 571
— Equipment Industry in 1945, 149
— Measurements and Test Gear, 367
— Meteorology, 319
— Receiver Design (Review), 450
— School, Marine, Woolwich, 514
— Transmission, Magnetron and Klystron for, 125*, 148*, 184*. See 361*
— Waves, Propagation of, 319
— See also *Radar; Telegraphy, Wireless; Telephony, Wireless; Television*
Radiolocation. See *Radar*
— Convention. See *Electrical Engineers, Institution of*
Railroad, Illinois Central, Bridge at Kentucky Dam, 339*
— Pennsylvania, 6-8-6 Type Turbine Locomotive, 355; 4-4-6-4 Type Locomotives, 355
Railroad, See also *Railways*
Railway Accidents. See *Accidents*
— Argentine State, Plant for, 427
— Bridge. See *Bridge*
— British, Construction of Locomotives and Rolling Stock for, 220
— — History, 1846-1946, 566, 567
— — Summary Table of Statistical Returns of, 1938-1944, 470
— — Position of, 278. See LETTER, 328
— Carriage. See *Carriage*
— Edinburgh and Berwick, Centenary of Opening, 566, 567
— European, Restoration of, 135
— French, Diesel-Electric Locomotives, 161
— — Restoration Work on, 399
— German, 2-10-0 Type Locomotives with Air-Cooled Condensers, 355
— Great Western, Widening of Gloucester-Cheltenham Line, 30*; Report on Sun Bank Accident, 177*
— Locomotive. See *Locomotive*
— London Midland and Scottish, Widening of Gloucester-Cheltenham Line, 30*; Locomotive Development on, 39; Lighting in Locomotive Sheds, 84; Locomotive Grate and Smoke-Box Improvements, 103; Experience with Turbine Locomotive 109. See LETTER, 259; Experimental Station Building, 163*; Manningham Motor-Vehicle Maintenance Workshop, 296*; Signalling Exhibition, 375; Carlisle-Kingsmoor Widening, 555*
— Manchester and Sheffield (Review), 52
— Metropolitan, London, Experimental Coach for, 116*
— New Zealand Government, Annual Report, 447
— North British, Centenary of, 566, 567
— Passenger Class Distinctions (Review), 603
— Plan, London, Report on, 445, 450*
— and Road Transport, 309, 331, 341, 365, 462, 548, 571, 604
— Rolling Stock. See also *Carriages; Locomotives*
— Russian State, 4-14-4 and 2-8-2 Types of Locomotives for, 355
— Signalling. See *Signalling*
— South Australian 4-8-4 Type Locomotive, 355
— Traffic Operation, Outline of (Review), 460
— Transandine, Tunnel Through Andes, 342
— Transport, German, Effect of Allied Air Attacks, 613
— Transportation Training, Royal Engineers, 535*
— Underground. See *Underground; London Passenger Transport Board*
— United States, Radio Communication on, 327
— See also *Railroads* and PARAGRAPH INDEX
Ramsay, F. R. F., on Diagnosis of Engine Ignition Faults, 417
Ramsey, A. R. J., on History of Thermostats, 391, 413
Rand Water Board, Pumping Plant at Zwartkopjes and Vereeniging, 152*
Ransley, Dr. C. E., on Reaction of Aluminium-Magnesium Alloy with Water Vapour, 428*, 438. See 305
Ratcliffe, J. A., on Aerials for Radar Equipment, 319
Ratsey, O. L., on Radar Transmitters, 389
Raw Materials from the Sea (Review), 53
Rays. See *Cathode Rays; X-Rays*
Raynor, Dr. G. V., on Magnesium-Silver-Lithium Alloys, 305
Read, A. A., on Electrical Engineering and Coil Degaussing, 343
Receivers for Radar, 307, 389
Reconnaissance, Photographic, and Invasion of England, 568, 580
Record Electrical Co., Ltd., Earth-Leakage Trip, 89; Moisture Meter for Yarn, 89
Redwood, P. C., on Effect of Machinability on Light Engineering Production, 606. See 569, 593
Rees, Dr. W. J., on Hot-Strength Characteristics of Moulding Sands, 190*
Refining of Transformer Oils, 379
Refrigerated Transport of Meat in Tropics, 453*
Refrigerating Machines, War-Time Output, 183
— Plant, S.S. "Beaverdell," 511*
— — for Test Pit, Kentucky Dam Foundation, 338*
Refrigeration, Institute of, Refrigerated Storage and Transport of Meat in Tropics, by Dr. E. Griffiths and M. J. Hickman, 453*
Refractory Materials. See *Fireclay*
Regulator, Gas (Cambridge Instrument Co., Ltd.), 40*
Reheating Furnace. See *Furnace*
Reid, G. U., the Late, 616
Reinforced Concrete. See *Concrete*
Reinforcement Steel Engineers' Association, Formation of, 514
Reif, E. F., on Recent Aerodynamic Developments, 541. See *Erratum*, 587
Rendel, Palmer and Tritton, "Liberation" 2-8-0 Type Locomotive, 440*
Repeated Stresses. See *Fatigue* under *Tests (Materials)*
Report, Annual, Automobile Research Committee, 5
— — British Electrical and Allied Industries Research Association, 187
— — British Electrical and Allied Manufacturers' Association, 399
— — Central Electricity Board, 373, 399, 615
— — Liverpool Steam Ship Owners' Association, 399
— — London Power Co., Ltd., 207
— — New Zealand Government Railways, 447
— — North-East Engineering Bureau, 111
— Atmospheric Pollution in Leicester, 157
— Characteristics of Domestic Load, 398
— of Coal Processing Panel, Northern Industrial Group, 62
— on Control of German Industry and Patents, 229
— Derelict Land in Black Country, 301
— on Effect of War on American Industrial Economy, 182
— Electric Power Supply in Canada, 134
— Electrification of Highland Agriculture, 469
Report on Exports, British Engineers' Association, 542
— on German Switchgear Design, 224
— on Higher Agricultural Education, 494
— on Inland Transport in Europe, 135
— Iron and Steel Industry Modernisation, 446, 471
— London Traffic, Royal Commission of, 1905, 331
— Market for Household Appliances, 85. See LETTER, 136
— Railway (London Plan) Committee, 445, 450*
— Rating of Resistance Welding Machines, 519
— Relation between Daylight Illumination and System Load, 158
— Scientific Man-Power, 565
— on Sun Bank Railway Accident, Llangollen, 177*
— Transient Warming of Rooms, 326
— on University Education and Business, 37
— on Utilisation of Low-Grade Fuel, 133. See LETTER, 304
— War-Time Development in Coal Mines Mechanisation, 162, 175
— See also *Board of Trade*
Research, Aeronautical, on Aeroplane Wings and Drag Reduction, 541. See *Erratum*, 587
— — Extensions and Developments in 1945, 78
— Association, British Electrical and Allied Industries, Report on Relation Between Daylight Illumination and System Load, by P. Schiller, 158; Annual Luncheon, 159; Annual Report, 187; Report on Transient Warming of Rooms, by M. V. Griffith, 326; Report on Characteristics of Domestic Load, by P. Schiller, 398; Report on Electrification of Highland Agriculture, by C. A. C. Brown, 469
— — British Welding, Constitution of Council, 471
— — Cast Iron, British, Report on Single-Blow Impact Test for Cast Iron, 117*
— — Mine Owners', Fluorescent Lighting in Binley Colliery, 522
— — Motor Industry, Inauguration, 615
— — Non-Ferrous Metals, British, Investigation on Reaction of Aluminium-Magnesium Alloys with Water Vapour, by R. Eborall and Dr. C. E. Ransley, 305, 428*, 438
— Committee, Atmospheric Pollution, Report on Atmospheric Pollution in Leicester, 157
— — Automobile, Annual Report, 5
— Department, Institution of Automobile Engineers, Gear-Lubricant Testing Machine, 114
— — Metropolitan-Vickers Electrical Co., Ltd., Production of Atomic Energy, 75*, 100
— — Scientific and Industrial, Fields of Activity, 614
— — Woolwich Armament, Machinability Tests at, 544, 569, 599*
— Exhibition, Chemical, Imperial Chemical Industries, Ltd., 443, 536
— Fellowships in Metallurgy, Mond Nickel Co., Ltd., 255
— Gas and Fuel, at Leeds University, Report on, 543
— Industrial, Present Position and Recent Progress (Review), 603
— and Industry, Conference on, 281, 327
— Institute, Tin, Mechanical Properties of Chill-Cast Phosphorus Bronzes, 153; Corrosion-Resistance of Electrodeposited Tin-Zinc Alloys, 289*, 427; Research on Methods of Tinning of Cast Iron, 526*, 550*; Report of Work, 1942-1944, 285
— in Iron and Steel Industry, Recent Progress, 476, 485
— Laboratory, Institution of Automobile Engineers, Transfer to Motor Industry Research Association, 615
— Metallurgical, by Dr. W. H. Hatfield, 461
— Organisation, French Industrial, Visit to England, 615
— Parsons and Marine Engineering Turbine and Development Association, Proposed Activities, 269
— Scientific, Current, in United Kingdom, Royal Society Notes on, 614
— — War-Time, Publication of Results, 112
— Station, Post Office, Dollis Hill, Work of, 524
— on Synthetic Liquid Fuels, United States, 422
— Team Work in, Examples of, 21*, 33
— in Technical Colleges, Board of Education Circular on, 423
— on Transformer Oil, 379
— See also *National Physical Laboratory*
Reservoir, Kentucky Dam, 337*, 385*, 433*
— Yangtze River Scheme, 7, 303
Resistance Welding. See *Welding*
Reviews. See LITERATURE INDEX
Reynolds Number: Its Meaning and Significance (Review), 507
Reyrolle, A., & Co., Ltd., Switchgear for Hams Hall "B" Power Station, 98*; Switchgear Constructed in 1945, 124; Control Gear for Turbo-Electric Ship "Beaverdell," 512*
Richardsons, Westgarth & Co., Ltd., 2,500-kW Transportable Power Station, 463*
Rings, Piston. See *Piston Rings*
River Aquasabon Hydro-Electric Scheme, 594
— Columbia, Navigation on, 590
— Eden, Reinforced-Concrete Railway Bridge over, 555*
— Mersey, Road Tunnel Under, 366
— Missouri, Flood Control and Irrigation System, 594
— St. Lawrence Waterway and Power Project, 330
— Severn Bridge Scheme, 293
— Tennessee, Kentucky Dam on, 337*, 385*, 433*
— Yangtze, China, Regulation and Development Scheme, 7, 303
Road, Alaska Highway, Acquisition by Canada, 594
— Construction in Peru, 255, 342
— — Plans in United Kingdom, 293
— Federation of Coated Macadam Industries, Luncheon, 519
Road Improvement Fund, History of, 341, 365, 548
— Transport, Commercial, Five Decades of, 309, 331, 341, 365, 402, 548, 571, 604. See *Erratum*, 331
— — Engineers, Training of, 39
— — Vehicles, Jubilee of J. I. Thornycroft & Co., Ltd., 543
Roberts, E. R. B., on Railway Situation, 328. See 276
Robertson, A., on Oxidation of Liquid Hydrocarbons, 379
Robinson, J. T., on Aluminium-Alloy Forgings and Stampings, 138
Robson, J., on Merchant Shipbuilding in Canada, 461, 487, 525. See 520
Rock Wool (Review), 292
Rod, Glass, Manufacture of, 222
Roe, A. V., & Co., Ltd., "Lincoln" Bomber, 224*
Rolling, Metal Strip, Computations of Rolling Load, Torque and Roll-Face Pressure, 281
— Mill Pinion, Repair by Thermit Welding (Murex, Ltd.), 32*
— Stock for British Railways, 278. See LETTER, 328
— — Industry, Position and Prospects, 220
— — See also *Carriages; Locomotives*
Rolls-Royce Ltd., Development of High-Duty Engine, 16; Gravity Die-Castings for Merlin Engine, 45*; 12-Cylinder "Griffon" Aero Engine, 128*; Disposal of Hillington Factory, 231; Merlin 130 and 131 Aero Engines, 465*
Rommey, J., on Sludging Value of Transformer Oils, 380
Röntgen Rays. See *X-Rays*
Roofing Tiles, Clay, and Fittings, Specification, 154
Rooms, Storage Fitments for, Specification, 562
— Transient Warming of, Report, 326
Ropes, Wire. See *Wire Ropes*
Rose, Dr. H. E., on Mechanical Analysis of Portland Cements, 457*, 483*. See *Erratum*, 496
Ross, Dr. A. D., on Extensometer for Plastics 241*
Ross, A. W., on Problems in Shipborne Radar, 389
Rotary Blowers. See *Blowers*
— Engine. See *Engine; Aeronautics*
— Pump. See *Pump*
Rotor, Alternator, Deformation of Windings, 14
— Dynamical Balancing by Mechanical Resonance, 481*, 529*
Rottenburg, H., on Mass and Inertia, 259
Rowell, H. S., on Theory of Lock Nuts, 39. See LETTERS, 16, 112, 161
Royal Aeronautical Society. See *Aeronautical*
— Commission of 1945 on London Traffic, Report, 331
— Engineers, War Memorial Fund, Appeal for Subscriptions, 447; Transportation Training Centre, Longmoor, 535*
— Institution of Chartered Surveyors, Change of Name from Chartered Surveyors' Institution, 522
— Observatory, Greenwich, Removal to Hurstmonceux Castle, 414

Royal Society:

Conference on Creep of Metals, 233*, 258*
Election of Fellows, 279
Award of Ewing Metal to Prof. R. V. Southwell, 399
Nomination of Lord Keynes to Fellowship, 532
Empire Scientific Conference, 589, 614
Notes on Current Scientific Researches in United Kingdom, 614
Symposium on Metrology:
Standards of Length, by J. E. Sears, 401; Measurement of Length in Wavelengths of Light, by H. Barrell, 401; Standards of Mass, by F. A. Gould, 401; Electrical Standards, by Dr. L. Hartshorn, 402; Measurement of Temperatures, by J. A. Hall, 402
Royal Society of Arts. See *Arts*
Rubber Consumption in United States, Statistics, 594
— Products, Specification, 538
Rudeforth, S., on Manual Production of Electrical Energy, 553*
Rural Electricity Service in Ontario, 38, 134
— Electrification in Canada, 134. See 38
— — Use of Single-Phase System for, 390
— — in Highland Agricultural Districts, 469
Russia, Electrical Plant for, 124
— 4-14-4 Type and 2-8-2 Type Locomotives, 355
Ryder, E. H., on H.M. Cruiser "Carnarvon," 17

S.

"SABRE" Aero Engine, 79
Saint. See *St.*
Sampling of Portland Cement, Methods of, 457*, 483*. See *Erratum*, 496
Samuelson, F., the Late, 112
Sand Foundations and Soil Mechanics, 313*. See *Errata*, 346
— Moulding, Hot-Strength Characteristics, 190*
Sangamo Weston, Ltd., Moving-Coil and Dynamometer Instruments, 41
Santos, Port of, Equipment of, 427
Sarjant, Dr. R. J., on Fuel Efficiency in Iron and Steel Works, 448, 472
"Sasmuta," Formation of, 135
Saunders Valve Co., Ltd., Exhibits at Welsh Industries Fair, 607
Scavenging in Marine Diesel Engines, 357
Schiller, K. K., on Significance of Difference in Test Results, 568. See LETTERS, 16, 496
Schiller, P., on Characteristics of Domestic Load, 398
Scholarships. See *Education*
Schools, Hot-Water Supply by Gas for, Specification, 562
Schreiber Pulp and Paper Mill, Canada, 594
Science Museum, Aeronautical Collection, Re-opening of, 345
— Services to Steel Industry, 448, 476, 485

Scientific Apparatus Exhibition, Physical Society's, 15, 40*, 89*, 114*
— — Export Trade in, 592
— — at North-East Coast Exhibition, Newcastle-upon-Tyne, 39, 107
— Conference, Empire, London, 589, 614
Scientific Exports (Great Britain), Ltd., Inaugural Reception, 592
— Instruments (Review), 506
— — British, Exhibition, Stockholm, 227, 591
— Man-Power, Report of Government Committee on, 565
— Management. See *Works Management*
— Research. See *Research*
— Societies. See *Institutions*
"Sciex," Formation of, 592
Scophony, Ltd., Electronic Stroboscope, 90
Scotland, Electrification of Highland Agriculture, Report on, 469
Screw Propellers. See *Aeronautics*
— Thread Comparator, Double-Anvil (A. Herbert, Ltd.), 31, 222*
— — Fatigue Strength of, 88
— — Friction in, 400*
— — Gauge (Newall Engineering Co., Ltd.), 67*
— — Measuring Parallels (W. H. Marley & Co., Ltd.), 297*
Scrivener, A., Ltd., Plunge-Cut Centreless Grinding Machine, 21; Automatic Centreless Plunge Grinding, 283
Sea, Raw Materials from (Review), 53
— Waves, Seismic, 484
Sears, J. E., on Standards of Length, 401
Sedimentation Tests for Portland Cement, 459*, 483*. See *Erratum*, 496
Seismic Sea Waves, 484
Self-Propelled Traffic Association, Early Work of, 309
Service Aviation. See *Aeronautics*
Severn, River, Bridge Scheme, 293
Shackles for Central Loading in Tensile Tests, 546*
Shaft, Crank. See *Crankshaft*
— and Holes, Fitting of. See *Gauges*
Shanghai, Zicawei Meteorological Observatory, 602*
Sheers, 130-ton, at Chatham Dockyard, Demolition of, 321*
Sheets, Asbestos-Cement, Specification, 10
— Laminated Bakelite (Bakelite, Ltd.), 248*
— Metal Drafting, Basis of (Review), 267
— and Strip Metal Users' Technical Association, Formation of, 135; First Annual Meeting, 562
Sheffield and Manchester, First Railway Between (Review), 52
— Mines Mechanisation Training Centre, 175
— Naval Ordnance Inspection Department, Machinability Testing Apparatus at, 544, 569, 597*
Shepheard, R. B., on Structural Tests of Ships, 425
Shingleton, Major L., "Conslab" System of Building Construction, 201*
Ships, Cable, for "Operation Pluto," 473
— Canal. See *Canal*
— Cargo, Model Experiments at Gothenburg, 449
— Crews Accommodation, Watts' Prize for Improving, 327
— Degaussing of, 343
— Diesel-Engined. See *Motorships; Marine Propulsion*
— Dynamic Longitudinal Strength of, 532
— Electric Propulsion. See *Marine Propulsion*
— Fouling of, and Under-Water Paints, 498
— Launched in 1945, Lloyd's Statistics, 183, 268
— Merchant, War-Time Repairs to, 159, 477*, 502*
— Model Experiments. See *Tank Experiments*
— Motor. See *Motorships; Marine Propulsion*
— Plating, Pietzker's Effective Breadth of Flange, 364*. See LETTERS, 400, 448
— Propulsion. See *Marine Propulsion; Engines; Turbines*
— Strains and Deflections in, Tests of, 425
— Profiles and Hull Resistance of, Calculation of, 532
— Welded, Future of, 567
— Welding Committee, Admiralty, Work of, 425, 509, 549
— See also *Marine; Motorships; Shipping; Steamers; Warships;* and PARAGRAPH INDEX
Shipborne Radar, 306, 389
Shipbuilders and Engineers, North-East Coast Institution of. See *North-East Coast*
Shipbuilding, Admiralty Ship-Welding Committee, Work of, 425, 509, 549
— Construction of S.S. "Orcades," 130
— Future of Welding in, 567
— Industry, Position and Prospects, 268, 349
— — and War-Time Repairs to H.M. Ships, 402, 405*, 414, 437
— in Italy, 295
— Merchant, in Canada, 461, 487, 520, 525
— Naval. See *Warships*
— and Pietzker's Effective Breadth of Flange, 364*. See LETTERS, 400, 448
— Vessels under Construction, Lloyd's Statistics, 447
— — Launched in 1945, Lloyd's Statistics, 183
— War-Time Repairs to Merchant Ships, 159, 477*, 502*
— Yards in War-Time, Official Story of (Review), 171
— See also *Steamers; Naval; Warships;* and PARAGRAPH INDEX
Shipping and Aircraft, British Corporation Register, Work of, 231; Failure of Negotiations to Unite with Lloyd's Register, 414
— Liverpool Steam Ship Owners' Association, Annual Report, 399
— Merchant, Construction of, 1940-45, 268
— South American, 29
Shipyard. See *Shipbuilding Yard*
Shock Tests. See *Impact Tests* under *Tests (Materials)*
Shop Management. See *Works Management*
Short Bros. (Rochester & Bedford), Ltd., Transfer from Rochester to Belfast, 563
Shrapnell Smith, E. S., on Five Decades of Commercial Road Transport, 309, 331, 341, 365, 462, 548, 571, 604. See *Erratum*, 331
Siemens Brothers & Co., Ltd., Marine Radio School, 514
Sieving Tests for Portland Cement, 458, 484. See *Erratum*, 496
Sigma Instrument Co., Ltd., Automatic Sorting Machine, 43*; Mechanical Comparator, 414*
Signalling, Railway, Exhibition at Euston Station, 375
— School, Royal Engineers Transportation Training Centre, 535*
Significance of Differences in Test Results, 16. See LETTERS, 496, 568
Silicon Carbide for Resistors, Properties of, 295
Sills and Lintels for Windows and Doors, Specification, 82
Sillars, E. W., on Silicon-Carbide Resistors, 295
Silver, Dr. R. S., on Heat-Transfer Coefficients in Surface Condensers, 505*
Sims-Edison Torpedo, 243
Sine Table, 5-in., Denfolds Engineering Co. Ltd., 136*
Slates, Asbestos-Cement, Specification, 10
Slings, Wire-Rope, and Sling Legs, Specification, 250
Sludging Value of Transformer Oil, Effect of Condenser-Water Temperature on, 380
Smart, R. C., on British Economy in Post-War World, 136; on Britain's Coal Industry, 424
Smith, Engr.-Capt. E. C., on Hong Kong Dockyard, 577*, 601*
Smith, Dr. R. A., on Radar Navigation, 389
Smoke, Atmospheric Pollution by, 140, 157
Societies, Technical and Scientific. See *Institutions*
— Trade. See *Labour; Labour Notes;* PARAGRAPH INDEX
Sodium Chloride, Corrosion of Aluminium-Copper Alloy by, 280
Soil Mechanics, Practical Development of, 313*. See *Errata*, 346
Solar. See *Sun*
Soot Doors for Buildings, Specification, 490
Sopwith, D. G., on Fatigue Strength of Screw Threads, 88
Sorting Machine, Automatic (Sigma Instrument Co., Ltd.), 43*
South Africa, Zwartkopjes and Vereeniging Pumping Stations, 15*
— America, Engineering Notes from, 29, 161, 270, 342, 427
— Australian Railway, 4-8-4 Type Locomotive, 355
— Kensington, Science Museum, Re-opening of Aeronautical Collection, 345
— Wales, Industrialisation in, 581, 607
— West, Notes from, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611. See PARAGRAPH INDEX
— Yorkshire, Notes from, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611. See PARAGRAPH INDEX
Southampton Electricity Supply Undertaking, Jubilee of, 500
Southampton, South of England and Isle of Wight Royal Mail Steam Packet Co., M.S. "Vecta," 344*
Southwell, Prof. R. V., Award of Ewing Medal to, 398
"Spearfish" Torpedo Dive-Bombing Aeroplane, 583*
Specifications and Contracts, Engineering (Review), 147
— Standard. See *Standards; Standardisation*
Spectrograph, Metallurgical Analysis by, Collected Papers on (Review), 26
Speculum Plating, Investigations on, 285
"Spedia" Impregnated Diamond Lapping Wheel, Tests of, 271
Speed Trials. See *Trials*
Spillway, Kentucky Dam, 330*, 336*, 434*
Sproule, D. O., on Detection of Cracks in Steel by Supersonic Waves, 472
Spurrier Lecture on Five Decades of Commercial Road Transport, 309, 331, 341, 365, 462, 548, 571, 604. See *Erratum*, 331
St. Lawrence River Waterway and Power Project, 330
Staining, Varnishing and Painting Wood, Specification, 490
Stampings, Aluminium-Alloy, Manufacture, 138
Standards Institution, British, Memorandum on Protection of Steel and Iron Against Corrosion, 58; Schedule for Electric Discharge Lamps, 130; Definition of Plastic Technical Mouldings, 322
— — British, Specifications, Copper and its Alloys, 10; Asbestos-Cement Slates and Sheets, 10; Metal Casement Windows and Doors, 34; Asbestos-Cement Pipes, 34; Hexagon Die Nuts, 34; Proof Test for Creep Quality of Boiler-Plate Steel, 58; Gypsum Plasterboard, 58; Testing of Transport Gas-Producer Fuels, 82; Sills and Lintels, 82; Analysis of Zinc and Zinc Alloys, 130; Clay Roofing Tiles and Fittings, 154; Photometric Integrators and Photometers, 154; Domestic Hot-Water Supply Boilers, 202; Bell-Ringing Transformers, 202; Magnesium-Alloy Ingots and Castings 250; Wire-Rope Slings and Sling Legs, 250; Manhole Covers and Gully Gratings, 274; Radio Components, 274; Carbon-Steel Bars, 274; Carbon and Alloy Steels, 298; Portable Photometers, 298; Metal Door Frames, 298; Wall Tiles, 322; Bunched Copper-Wire Conductors, 346; Bleached Lac, 346; Electrical Installations for Houses, 346; Lead Pipes, 394; Clay Tiles for Flooring, 394; Wood Surrounds for Metal Windows, 394; Fire Blocks for Gas Fires and Ventilation, 418; Festoon Electric Lamp Caps, 418; Lathe and Planer Tools, 418; Clay Engineering Bricks, 442; Asphalt, 442; Structural Requirements for Load-Bearing Walls, 466; Calcium-Sulphate Plastering, 466; Domestic Hot-Water Service, 466; Wood Trim, 466; Micanite for Commutator Separators, 466; Bitumen Mixtures for Flooring, 490; Painting, Staining and Varnishing Wood, 490; Domestic Gas Appliances, 490; Solid-Fuel Cookers, 490; Soot Doors for Buildings, 490; Screen Analysis of Coal, 514; Tests for Use in Training Welders, 514; Jointing Material for Gas Appliances, 514; Painting of Buildings, 538; Private Electric Generating Plant, 538; Electric Lighting for Houses, 538; Rubber Products, 538; Brickwork 562; Hot-Water Supply by Gas for Schools, 562; Storage Fitments in Rooms, 562; Softwood Flooring, 562; Electric Lifts, 586; Steel Gas Cylinders, 586; Tins for Paints and Varnishes, 586
Standards of Length and Mass, Measurement of, 401
Standard Limit System, Use of, 424
— Specifications, British, 10, 34, 58, 82, 130, 154, 202, 250, 274, 298, 322, 346, 394, 418, 442, 466, 490, 514, 538, 562, 586
Standard Telephones & Cables, Ltd., Impedance Comparator, 115*
Standardisation of Transformers, 86
Stanton, Dr. L. R., on Effect of Oxygen on Isothermal Transformations of Steel, 496
State Railways. See *Railways*
Statics, Structural, Lectures on (Review), 579
Station Building, Experimental, London Midland and Scottish Railway, 163*
— Power. See *Power Stations*
Statistical Returns of Railways of Great Britain, 1938-1944, 470
— Society, Royal, Formation of Industrial Applications Section, 63
Statistics, Monthly Digest of, 230
— Trade. See *Trade*
— Use in Electrical Market, 350
Steam Boats. See *Steamers*
— Boilers. See *Boilers*
— Consumption. See *Coal Consumption*
— Engines. See *Engines*
— Flow Through Nozzles. See *Nozzles*
— Heating Plant, Experiences with Peat Fuel, 223
— Turbines. See *Turbines*
Steamer "Beaverdell," Turbo-Electric Plant, 511*
— under Construction, Lloyd's Statistics, 447
— Electric Propulsion. See *Marine Propulsion*
— Geared Turbines for. See *Marine Propulsion*
— Launched in 1945, Lloyd's Statistics, 183, 268
— Oil Tank, "Olna," Turbo-Electric Propulsion Plant, 166*
— — Tank, War-Time Repairs to, 477*, 502*
— "Orcades," Construction by Vickers-Armstrongs Ltd., 130
— Propulsion of. See *Marine Propulsion; Engines; Turbines*
— See also *Engines; Marine Propulsion; Shipbuilding; Shipping; Ships; Turbines; Warships;* PARAGRAPH INDEX
Steamships. See *Ships; Steamers; Warships*
Steels, Alloy, Use in Marine Propelling Engine Design, 334
— Bars, Carbon, Specification, 274
— Boiler-Plate, Proof Test for Creep Quality, 58
— Carbon and Alloy, Specifications, 298
— Case-Hardening of. See *Heat Treatment* under *Metallurgy*
— Chromium-Molybdenum, Effect of Nickel, 287
— — See also *Steel, Stainless*
— Corrosion. See *Corrosion*
— Cracks in, Detection by Supersonic Waves, 472
— Creep of, 233*, 258*
— for Cutting Tools, 569, 593, 596, 622
— Damping Capacity and Fatigue of, 280, 358*, 381*
— Fatigue of. See *Fatigue* under *Tests (Materials)*
— Floating Dry Docks for United States Navy, 145*, 193*, 217*
— Furnaces. See *Furnaces*
— Heat Treatment of. See *Heat Treatment* under *Metallurgy*
— Industry, Dr. W. H. Hatfield's Services to, 461
— — Services of Science, 448, 476, 485
— Machinability of, 544, 569, 573*, 597*, 599*, 605, 617, 620*, 621*, 622*
— Machining of, Simply Explained (Review), 436
— Mesh Reinforcement, Use for Packing Crates, 138
— Microstructure of. See *Microphotographs; Metallography*
— Overheating and Burning of, 496
— and its Practical Applications (Review), 99
— Rails. See *Rails*
— Ropes. See *Wire Ropes*
— Sheet Piling, Kentucky Dam Construction, 434*
— for Ships, 425, 549
— Stainless, for Turbine Blading, 16. See LETTERS, 64, 112, 401
— Stress Distribution in. See *Stress; Tests (Materials)*
— Tests of. See *Tests (Materials)*
— Works. See *Works*
Steering Mechanism for Military Tanks, Evolution of, 353, 378
Stevens, W. R., on Solving War-Time Visibility Problems, 501
— Lecture on Processes of Destructive Hydrogenation, 447
Stock, A. R., on Present State of Engineering Bibliography, 247
Stockholm, Exhibition of British Scientific Instruments at, 227, 591
Stoker, Chain-Grate, Segmental Ash-Plate for, 294*
Storage Fitments for Rooms, Specification, 562
— Pumped, Plant at Palú Hydro-Electric Station, 536*
— Refrigerated, of Meat in Tropics, 453*
Straightening Machine. See *Machine Tools*
Strain-Hardening of Aluminium Alloy, 381
— See also *Stress*
Streets. See *Roads*
Strength of Materials. See *Stress* and *Tests (Materials)*
Stress, Alternating and Combined. See *Fatigue* under *Tests (Materials)*
— in Bolts Due to Tightening of Nuts, 409*
— Distribution in Soils Under Loads, 314*. See *Errata*, 346
— in Hanging Wires, 460*
— in Materials, Atomic Physics Theories, 519, 558*
— Repetitions. See *Fatigue* under *Tests (Materials)*
— Residual, Effects on Fatigue of Aluminium Alloys, 280
— in Ships, Investigation on, 425, 509, 549
— Strain Diagram of Cutting Operations, 574*, 593, 620*
Strikes. See *Labour; Labour Notes;* PARAGRAPH INDEX
Strip and Sheet Metal Users' Technical Association, Formation of, 135; First Annual Meeting, 562
Stroboscope, Electronic (Dawe Instruments, Ltd.), 115
Structural Engineers, Institution of, Election of Members, 82, 250, 346, 394, 490, 610; General Conditions of Contracts for Structural Engineering Work, 374; Standard Form of Tender, 374
— Engineering Industry, Position and Prospects, 292
— — Work, General Conditions of Contract and Standard Form of Tender, 374
— Statics, Lectures on (Review), 579
Structure of Materials, Influence on Machinability, 544, 569, 573*
— and Structural Members, Buckling Strength of (Review), 292
— Protection Against Lightning, 127
— Reinforced-Concrete. See *Concrete, Reinforced*
Substations, Emergency, West Ham and Ealing, 57*
S.U. Carburetter Co., Ltd., Gravity Die-Cast Carburettors, 47*
"Suffolk," H.M. Cruiser, Bomb Damage to, 405*
Sulphur Dioxide, Atmospheric Pollution by, 157
Sulzer Brothers, High-Lift Centrifugal Pumps at Palú, 536*
Sun Bank Railway Accident, Llangollen, Report on, 177*
— Short-Wave Radio Emission from, 164. See LETTER, 232
Supercharging in Marine Diesel Engines, 357
Superior, Lake, Schreiber Pulp and Paper Mill, 594
Supersonic Air Flow, 207, 325, 329
— Wave Flaw Detector (H. Hughes & Son, Ltd.), 42, 472
Supervising Electrical Engineers, Association of, Protection of Structures Against Lightning, by R. A. Price, 127; Annual Dinner, 351
Supply, Ministry of, Report on Single-Blow Impact Test for Cast Iron, 117*; Investigation of Error in Diamond-Pyramid Hardness Measurements on Hardened Steel, 286*; Disposal of Surplus Machine Tools, 303, 520. See LETTER, 594; Steering Mechanisms for Tanks, 353, 378; Disagreement with Staff of Power Jets (Research and Development), Ltd., 375; Nationalisation of Iron and Steel Industry, 397, 517. See 446, 471; "Liberation," 2-8-0 Type Locomotive, 440*; Report on Iron and Steel Industry's Modernisation Proposals, 446, 471. See 397, 517; Transportable Electric Power Stations, 463*; Atomic Energy Bill, 471
Supplies and Services (Transitional Powers) Act, 1945, Debate on, 277
Surface Condensers. See *Condensers*
— Finish and Machinability, Influence of Structure, 574*
— Grinding Machine. See *Grinding* under *Machine Tools*
Surrounds, Wood, for Metal Windows, Specification, 394
Surveyors Institution, Chartered, Change of Name to Royal Institution of Chartered Surveyors, 522
Swallow, Dr. J. C., on New Dielectrics in Radio Engineering, 571
Swedish Iron and Steel Industry, Fuel Problems, 448, 472
Swift, B. and P., Ltd., Rotary High-Pressure Gear Pump, 8*
Swiss Association of Electricians, Sintered Metallic Powders for Electrical Contacts, by H. H. Hauser, 188*
Switchgear, Central Electricity Board's Report, 374
— Circuit Breaker, 33-kV Low Oil-Content (Cooke & Ferguson, Ltd.), 282*
— Constructed in 1945, 124
— Flameproof, for Mines (British Thomson-Houston Co., Ltd.), 317*
— German, Report on Design of, 224
— Hams Hall "B" Power Station, 98*
— Kentucky Dam Hydro-Electric Plant, 433
— Metal-Clad, Transportable (British Thomson-Houston Co., Ltd.), 91*
— Sintered Metallic Powders for Contacts, 188*
— War-Time National Pool, 57*
Switzerland, Engineering Developments by Brown, Boveri & Co., Ltd., 495
— Pumped-Storage Plant at Palú Hydro-Electric Station, 536
Sykes, Dr. C., on Machinability and Structure of Ferrous Materials, 573*. See 544, 569, 593, 617
Synthetic Liquid Fuels Act, 1944, United States, 422

T.

TANGENTS to Plane Curves, Drawing of, 209*
Tank, Experimental, Experiments on Craft for "Operation Pluto," 473
— — Froude, Experiments for "Mulberry" Harbour, 473
— — Gothenburg, Experiments on Cargo Liners, 449

Tank, Experimental, Haslar, Experiments in Mine Warfare, 449
— Military, Evolution of Steering Mechanisms, 353, 378
— Ships, Motor. See *Motorships*
— Steamers. See *Steamers*
Tar Confederation, British, Election of Officials, 167
Taxation of Motor Vehicles, 102, 341, 365, 548, 571. See *Errata*, 216
Taxicabs, Introduction of, 331
Taylor, H. W., on Experience with Arc-Suppression Coils, 252
Taylor, Dr. J. L., on Pietzker's Effective Breadth of Flange, 400. See 364*. See LETTER, 448; on Dynamic Longitudinal Strength of Ships, 532
Taylor, W. W., on Effect of Speed, Feed and Tool Angle on Machinability, 620*. See 569, 593, 617
Teaching. See *Education*
Technical College and Education. See *Education*
— Museum, Stockholm, Exhibition of British Scientific Instruments, 227, 591
—Publications, Motor Transport, 331
— Societies. See *Institutions* and PARAGRAPH INDEX
Teeth, Gear. See *Gear*
Telecommunications, Commonwealth, Government Policy on, 423
— by High-Tension Transmission Lines (Review), 532
— Work of Cable and Wireless, Ltd., 567
— — of Post Office Research Station, 524
Telegraphy, Wireless, Manufacture of Apparatus in 1945, 149
— — See also *Radar; Radio; Television*
— See also *Electricity* in PARAGRAPH INDEX
Telephony Developments by Post Office Research Station, 524
— Electric Wave Filters, Theory and Design of (Review), 171
— Wireless, Manufacture of Apparatus in 1945, 149
— — See also *Radar; Radio; Television*
— See also *Electricity* in PARAGRAPH INDEX
Television Apparatus, Future Provision, 149
— "Videosonic" System, Pye, Ltd., 104*
Temperature Control by Thermostat, History of, 391, 413
— Indicator, Marine (Cambridge Instrument Co., Ltd.), 40*
— Measurement. See *Thermometry*
Tennessee Valley Authority, Kentucky Dam, 337*, 385*, 433*
Tensile Tests. See *Tests* (*Materials*)
Ternary Alloys. See *Alloys* under *Metallurgy*
Tests, Adhesion, White-Metal Lined Cast-Iron Bearings, 550
— Aeronautical. See *Aeronautics*
— for Clays, 513*. See *Errata*, 346
— of Commercial Motor Vehicles, 1896-1946, 309, 331
— Corrosion. See *Corrosion*
— of Diamond Lapping Wheels (A. C. Wickman, Ltd.), 271
— Friction, on Bolts and Nuts, 409*
— Hand-Driven Electric Generator, 553*
— 2,000-kW Hot-Air Turbine Power Plant, 49*
— for Machinability, 544, 569, 593, 595, 597* 599*, 605, 606, 617, 620*, 621*, 622*
— Magnetic. See *Magnetic*
Tests (Materials):
Bending Tests, Electrodeposits on Steel Plate, 291*
Creep Quality of Boiler-Plate Steel, Proof-Test Specification, 58
Cupping Test, Erichsen, Electro-deposits on Steel Plate, 291*
Damping Capacity and Fatigue of Metals, 280, 358*, 381*
Extensometer for Plastics, 241*
Fatigue of Aluminium Alloys, Effect of Residual Stresses on, 280
— of Metals and Damping Capacity, 280, 358*, 381*
— Strength of Screw Threads, 88
Hardness Tests, Diamond-Pyramid, of Hardened Steel, Sources of Error in Measurements of, 286*
Impact Tests, Notched-Bar, Theory of, 201
— — Single-Blow, for Cast Iron, 117*
Magnetic Tests. See *Magnetic*
Mechanical Tests, Aluminium-Alloy Gravity Die-Castings, 45
Stresses in Materials and Structures. See *Stress*
Tensile Tests, Chill-Cast Phosphorus Bronze, 153
— — of Portland Cement, 457
— — Shackles for Central Loading, 546*
Tests of Pneumatic Tyres for Farm Tractors, 201
— of Refrigerated Containers for Meat, 453*
— Results, Significance of Differences, 16. See LETTERS, 496, 568
— 2,500-kW Transportable Power Station, 463*
— 720-b.h.p., 12-Cylinder V-Type Oil Engine, 561
— on Volumetric Glassware at National Physical Laboratory, 321*
Testing Apparatus for Machinability, 544, 569, 597*, 599*, 617, 620*, 621*
— Laboratory, Metallurgy Division, Royal Aircraft Establishment, 236
— — See also *National Physical*
— Machines, Compression, for Moulding Sands, 190*
— — for Durability of Motor-Car Gears, 6
— — Gear-Lubricant, 114
— — Pendulum Type, for Machinability, 544, 569, 599*
— — Shackles for Central Loading, 546*
— Materials, American Society for, Symposium on Magnetic-Particle Testing, 302
— of Transformer Oils, 379
— of Transport Gas-Producer Fuels, Specification, 82
— See also *Tests* (*Materials*); *Trials*
Text-Books. See LITERATURE INDEX
Textile Carding Machine, Synchronous Drive for (D. Brown & Sons (Huddersfield), Ltd.), 368*
— Factories, Air Conditioning in, Research, 21*
Textile Industry in Brazil, 342
— Machine Manufacture in Brazil, 29
— Machinery Industry, Position and Prospects, 244
Textile Machinery Makers, Ltd., Sir W. Preston Scholarship and Research Fellowship Scheme, 519
Thermal Conductivity of Metals and Atomic Physics, 558*
— Efficiency, Battersea Power Station, 17, 42
— — Boilers Burning Peat Fuel, 223
— — Hams Hall "B" Power Station, 99
— — 2,000-kW Hot-Air Turbine Power Plant, 49*
— — La Mont Water-Tube Boiler, 87
— — of London, Midland and Scottish Railway Turbine Locomotive, 110. See LETTER, 259
— Treatment, Metals. See *Heat Treatment* under *Metallurgy*
Thermodynamic Scale, Measurement of Temperature on, 402
Thermodynamics, Work of N. L. S. Carnot, 160
Thermometry, Temperature-Measuring Instruments, 199
— — Measurement on Thermodynamic Scale and International Temperature Scale, 402
Thermostats, History of, 391, 413
Thompson, Prof. F. C., on Effect of Oxygen on Isothermal Transformations of Steel, 496
Thornton, D. L., on Seismic Sea Waves, 484
Thornycroft, J. I., & Co., Ltd., Conversion of M.S. "Vecta," to Diesel-Electric Drive, 344*; Road Transport Vehicles, 543
Thorpe's Dictionary of Applied Chemistry, Vol. VII (Review), 460
Threads, Screw. See *Screw*
Threlfall, R. E., on Glass Tubing, 222
Tidal Estuaries, Effect of Obstructions in, 241*
Tigerschiöld, Dr. M., on Fuel Problems in Swedish Iron and Steel Industry, 448, 472
Tiles, Clay, for Flooring, Specification, 394
— — Roofing, and Fittings, Specification, 154
— Wall, Specification, 322
Tilt Tests for Gun Mountings from Shipbuilders' Standpoint, 499
Tilting Table, Optical (Optical Measuring Tools, Ltd.), 43*
Timber Floating Dry Docks for United States Navy, 145, 217*
Time-Measuring Instruments (Everett, Edgcumbe & Co., Ltd.), 41
— and Motion Study, Manual of (Review), 316
Tin Alloys. See *Alloys* under *Metallurgy*
— Coatings, Electrodeposited, Tests of, 289*
— for Paints and Varnishes, Specification, 586
— Plate, Investigations on, 285
— Position in United States, 330
— Research Institute, Mechanical Properties of Chill-Cast Phosphorus Bronzes, by Dr. K. Winterton, 153; Report of Work 1942-1944, 285; Corrosion-Resistance of Electrodeposited Tin-Zinc Alloys, 289*, 427; Research on Methods of Tinning Cast Iron, 526*, 550*
Tinning Cast Iron, Research on, 526*, 550*
Todd, Dr. F. H., on Model Experiments for "Mulberry" Harbour, 473
Tolerances in Machine Work. See *Gauges*
Tomlinson, F. W., on Mineral-Insulated Metal-Sheathed Conductors, 31
Tool and Gauge Makers' Association, Luncheon, 626
— Holder. See *Machine Tools*
— Machine. See *Machine Tools*
— Steel. See *Steel*
Toothed Gear. See *Gear*
Towers, Cooling, Hams Hall "B" Power Station, 98*
Towie, A., on Development of High-Duty Aero Engine, 16
Town and Country Planning Association, Town Planning and Water Supply, by H. Berry, 495
— — Planning, Ministry of, Report on Derelict Land in Black Country, by S. H. Beaver, 301
— Gas. See *Gas*
— Planning and Daylight, 501
— — and Water Supply, 495
— Use of District Heating in, 140
Townend, Prof. D. T. A., on Fuel Research at Leeds University, 543
Torpedo Boats and Destroyers. See *Warships*
— Damage to Merchant Ships, 477*, 502*
Traction, Electric. See *Railways*
Tractor, Agricultural, "Atom" Semi-Crawler (Mechanised Horticultural Implements, Ltd.), 19*. See *Erratum*, 35
— — Development in, 172
— — Tests of Pneumatic Tyres for, 201
Trade, Agricultural Machinery, 172
— Disputes. See *Labour* and *Trade Societies* in PARAGRAPH INDEX
— Electrical Equipment, Need for Statistics, 350
— — Industry and Equipment, 123, 149
— Engineering and Allied Industries, 27, 53, 77, 101, 123, 149, 172, 197, 220, 244, 268, 292. See *Errata*, 216
— Exhibition. See *Exhibition*
— Export, Aircraft, 77
— — British Engineers' Association, Report on, 542
— — Formation of Scientific Exports (Great Britain), Ltd., 592
— — of Locomotives and Rolling Stock, 220
— Foreign, Future of, 14
— Household Appliances, Report on, 85. See LETTER, 136
— Machine Tools, Exports and Imports, 197
— Marine Engineering and Shipbuilding, 268
— Motor Cycle and Cycle, 101. See *Errata*, 216
— — Vehicle, 101. See *Errata*, 216
— South American, Engineering Notes, 29, 161, 270, 342, 427, 534
— Textile Machinery, Exports and Imports, 244
— Unions. See *Labour* and *Trade Societies* in PARAGRAPH INDEX
Traffic on British Railways, 1938-44, 470
Train. See *Railway*
Training. See *Education*
Transandine Railway, Tunnel through Andes, 342
Transformers, Bell-Ringing, Specification, 202
— Researches on Oil for, 379
— for Single-Phase Rural Electrification, 390
— Standardisation of, 86
— War-time National Pool of, 57*
— Windings, Mechanical Stresses in, 9
Transmission, Electric, Ship Propulsion. See *Marine Propulsion*
— Gear. See *Gear*
— of Power. See *Marine Propulsion; Power Transmission*
Transmitters for Radar, 307, 389
Transport, Aerial. See *Aeronautics*
— Inland, in Europe, Report on, 135. See 279
— Institute of, Establishment of Sheffield and District Centre, 88; Election of Members, 250, 298; Formation of South-Western Section for Devon and Cornwall, 309; Spurrier Lecture on Five Decades of Commercial Road Transport, by E. S. Shrapnell-Smith, 309, 331, 341, 365, 462, 548, 571, 604. See *Erratum*, 331; Silver-Jubilee Scholarship Conditions, 375
— Ministry of, Report on Sun Bank Railway Accident, 177*; Emergency Legislation, 277; Control of Road Transport, 341, 365, 571, 604; Report of Railway (London Plan) Committee, 445, 450*; Summary Table of Statistical Returns of Railways of Great Britain, 1938-1944, 470; Memorandum on Bridge Design and Construction, 580
— Motor. See *Road; Motor*
— Organisation, Inland, European, Programme of, 279. See 135
— Problems in Brazil, 342
— Railway. See *Railway*
— Refrigerated, of Meat in Tropics, 453*
— Road. See *Road; Motor*
Transportation Training Centre, Royal Engineers, Longmoor, 535*
Trasenster Medal, Award to Sir E. Appleton, 346
Trenching Machine for Agricultural Drainage (Aveling-Barford, Ltd.), 127*
Trials, Turbo-Electric Cargo Ship "Beaverdell," 511
— See also *Tests*
Tubes, Boiler, Locomotive, Heat Transfer in, 493
— Railways. See *Underground Railways; London Passenger Transport Board*
— Straightening Machine for (Bronx Engineering Co., Ltd.), 355*
— See also *Pipes*
Tubing, Glass, Manufacture of, 222
Tudor, G. K., on Lubrication Between Piston and Cylinder
Tudsbery, Col. H. T., the Late, 232
Tungsten Lamps. See *Lamps* under *Electric*
Tunnel through Andes, Transandine Railway, 342
— Road, under River Mersey, 366
Turbine, Gas, for Jet Propulsion, Researches on, 22*
— — Whittle Jet-Propulsion, 212*, 237*, 261*. See *Erratum*, 239
— — See also *Aeronautics*
— Hot-Air, 2,000-kW Power Plant, 1*, 25*, 49*
— Hydraulic, 44,000-h.p. Kaplan, Kentucky Dam Plant, 387*, 433
— — See also *Power Plant*
— Pumps. See *Pumps, Centrifugal*
— Steam, Application of Supersonic Air Flow to, 207, 325, 329
— — 9,000 s.h.p., S.S. "Beaverdell," 511*
— — Blading for. See *Blading*
— — 50,000-kW, Hams Hall "B" Power Station, 97*
— — Marine, Geared. See *Marine Propulsion*
— — 2,500-kW, for Transportable Power Station, 463*
— — for Turbo-Electric Ship Propulsion, 111, 142*, 166*
— — See also *Turbo-Generators*
— Steamers. See *Steamers; Warships*
Turbo-Electric System, Ship Propulsion. See *Marine Propulsion*
— Generator, 9,000-s.h.p., S.S. "Beaverdell," 511*
— — for Electric Propulsion, 111, 142*, 166*
— — 50,000-kW, Hams Hall "B" Power Station, 97*
— — 2,500-kW, for Transportable Power Station, 463*
Turnbull, J., on Structural Tests of Ships, 425
Turner, D. A., on Degaussing and Correction of Magnetic Compasses, 343
Turner, N. H., on Fuel Utilisation in Iron and Steel Works, 448, 472
Turret Lathes. See *Lathes* under *Machine Tools*
Twist Drill. See *Drill* under *Machine Tools*
Tyres for Commercial Motor Vehicles, 331, 341, 365, 604
— Pneumatic, for Farm Tractors, Test of, 201

U.

UNDERGROUND Government Offices, Emergency, 92
— Haulage Methods for Mining Engineers, Modern, Manual of (Review), 52
— Railway, London, Experimental Coach for, 116*
— — See also *London Passenger Transport Board*
Unions, Trade. See *Labour* and *Trade Societies* in PARAGRAPH INDEX
United States Bureau of Mines, Work on Synthetic Liquid Fuels, 422
— — Bureau of Reclamation, Yangtze River Developments, 7
— — Electric Supply in, 535
— — Engineering Notes from, 7, 246, 330, 594
— — Kentucky Dam on Tennessee River, 337*, 385*, 433*
— — Navigation on Columbia River, 590
— — Navy. See *United States* under *Warships*
— — Railways, Radio Communication on, 327
— — Railways. See also *Railways; Railroads*
— — Torpedo Manufacture in, 242
United States, Turbo-Electric Ship Propulsion in, 111, 142*, 167
— — War Production Board, Report on Effect of War on American Industrial Economy, 182
— — War-Time Repairs to H.M. Ships in, 415
— — Weather Bureau Observations in Arctic Regions, 330
— — Welded Ships, Investigation on, 425, 509, 549
— — See also *America*
Universities, Advantages of Engineering Facilities at, 88
— Bristol, Investigation on Loads on Bolts, 409*
— Cambridge, Appointments Board, Report on University Education and Business, 37
— Education and Business, Report on, 37
— Fuel Technology Courses at, 165
— Glasgow, 200 Million-Volt Betatron, 583
— and Higher Agricultural Education, 494
— Leeds, Gas and Fuel Research at, Report, 543
— Oxford, Research on Magnesium-Silver-Lithium Alloys, 305
— and Scientific Man-Power, 565
— Students, State Assistance for, 495
— See also *Education*
U.N.R.R.A., "Liberation" 2-8-0 Type Locomotive, 440*
Uranium Pile, Construction of, 100
Ure, Dr. A., Work on Thermostat, 391
Uruguay, Engineering Notes, 29, 270, 342, 427

V.

VACATION Work Scheme, Imperial College, 63
"Valiant," H.M. Battleship, Reconstruction of, 376, 402
Valve Gear of Cornish Engines at Kew Bridge Pumping Station, 619*. See 510, 518
— Magnetron, Construction of, 361*
— — Theory of, 125*, 148*
— Motor-Car Engine, Researches on, 6
— Radio, for Radar, 367
Vaporiser for Whittle Jet-Propulsion Gas Turbine, 239*
Varnishes for Insulation, 7
— and Paints, Tins for, Specification, 586
Varnishing, Staining and Painting Wood, Specification, 490
"Vecta," M.S., Diesel-Electric Drive for, 344*
Vehicles, Armoured Fighting, Evolution of Steering Mechanism for, 353, 378
Velocity of Seismic Sea Waves, 484
Ventilation Arrangements of House of Commons, 591
— Flue Blocks for, Specification, 418
Vereeniging Pumping Station, 152*
Vessels under Construction, Lloyd's Statistics, 447
— Launched in 1945, Lloyd's Statistics, 183, 268
Vibrating Machine, Universal (C. M. G. Calver, Ltd.), 66*
Vickers-Armstrongs Ltd., Building of Orient S.S. "Orcades," 130; Torpedo Manufacture by, 170*
"Videosonic" Television System, Pye, Ltd., 104*
Vieyra, B. E., on Electrical Engineering and Coil Degaussing, 343
Visibility Problems, War-Time, Laboratory Technique for Solving, 501
Vision and Light, Investigation on, 501
Vivian, A. C., on Stainless Steels for Turbine Blading, 16. See LETTERS, 64, 112, 401; on Theory of Notched-Bar Test, 401
Volta Redonda Iron and Steel Works, Brazil, 427
Voroshilovgrad Locomotive Works, 2-8-2 Type Combined Steam and Oil-Engine Locomotive, 355
Vulcan Foundry, Ltd., "Liberation," 2-8-0 Type Locomotive, 440*

W.

WAGES. See *Labour*; PARAGRAPH INDEX
Wagons, Motor. See *Motor Vehicles; Tractors*
Waldram, J. M., on Solving War-Time Visibility Problems, 501
Wall, Dr. T. F., on Magnetron and Klystron, 125*, 148*, 184*; on Short-Wave Radio Emission from Sun, 232. See 164
— Load-Bearing, Structural Requirements, Specification, 466
— Tiles, Specification, 322
Wallace, W. K., Carlisle-Kingsmoor Railway Widening, 555*
Walshaw, T. D., Amalgamation of Institutions of Mechanical and Automobile Engineers, 352. See 183, 253. See LETTERS, 280, 304, 328, 424
War Equipment Reclamation in Australia, 138
— German Preparations for Invasion of England, 568, 580
— of 1914-18, Use of Motor Vehicles in, 331, 341
— and Peace, Achievements of, 13
— Records, Industrial, for Imperial War Museum Library, 39
— Time Production in the United States Report on, 182
— — Scientific Research, Publication of Results, 112
— — Shipyards in, Official Story of (Review), 171
— — Visibility Problems, Laboratory Technique for Solving, 501
Warfare, Use of Aircraft in. See *Aeronautics*
— Naval. See *Warships*
Warming, Transient, of Rooms, Report, 326
Warships:
Admiralty Naval Compass Department, High-Frequency Two-Phase Induction Motor, 81*
— Research Department, Research on Magnetrons, 361*
— Ship Welding Committee, Work of, 425, 509, 549

Warships—*continued.*
Admiralty Signal Establishment, Radio Navigation Equipment, 423, 451
— Type Motor Fishing Vessels, 521
Aviation, Naval. See *Aeronautics*
German Navy, Preparations for Invasion of England, 568, 580
H.M. Aircraft Carrier "Eagle," Launch of, 279
— Battleships "Queen Elizabeth" and "Valiant," Reconstruction of, 376, 402
— Coastal Minesweepers, 375-b.h.p. Petters Oil Engine for, 369*
— Cruiser "Carnarvon," in 1908, 17
— — "Prometheus," 1911, Voyage of, 579
— Destroyer "Ilex," La Mont Water-Tube Boiler in, 87
— Dockyards, Organisation of, 577*, 601*
— — War-Time Repairs to H.M. Ships in, 402, 405*, 414, 437
— Navy in 1939, 353, 376, 402
— Repair Ships, Data on, 438
— Ships, Application of Radar to, 307, 389
— — Degaussing of, 343
— — "Fleetwood," Radio Navigation Equipment in, 423, 451
— — Torpedo Damage to, 405
— — War-Time Repairs to, 353, 402, 405*, 414, 437
— — Welding in, 567
Naval Aeronautics. See *Aeronautics*
— Engineers in Hong Kong Dockyard, 577*, 601*
— Engineering, Advances in, 376, 402
— Ordnance Inspection Department, Machinability Testing Apparatus at, 544, 569, 597*
Tilt Tests from Shipbuilders' Standpoint, 499
Torpedo Development, History of, 73*, 121*, 169*, 242
— Tube, Development of, 73*
United States Navy, Floating Dry Docks for, 145*, 193*, 217*, 265*
Warship Construction, Developments in, 349
See also *Naval* in PARAGRAPH INDEX
Wassell, H. G., on Degaussing and Correction of Magnetic Compasses, 343
Waste-Heat Recovery, Conference on, Programme, 342
Water Area, Greater London, Proposals for, 110
— Committee, Central Advisory, Appointment of, 567
— Power. See *Hydraulic; Power Plant; Turbine, Hydraulic*
— Supply for Greater London, Proposals, 110
— — and Town Planning, 495
— — See also *Irrigation*
— Tube Boiler. See *Boiler*
— Turbines. See *Turbines, Hydraulic; Power Plant*
Water Vapour, Reaction of Aluminium-Magnesium Alloy with, 305, 428*, 438
— Wheels. See *Turbine, Hydraulic; Power Plant*
Waterhouse, Dr. G. B., on Dr. W. H. Hatfield's Services to Metallurgy, 461
Waterways. See *Rivers; Canals; Navigation*
Waterworks. See *Water Supply* and PARAGRAPH INDEX
Watson, D. S., on Cathode-Ray Tubes in Radar, 319
Watson, G. O., on Alternating-Current Turbo-Electric Ship Propulsion, 142*, 166*. See 111
Watson-Watt, Sir R., on Evolution of Radiolocation, 306, 317
Watts, Watts & Co., Ltd., Establishment of Watts' Prize, 327
Wave Filters, Electric, Theory and Design of (Review), 171
— Guides for Radar, 319
— Mechanics and Properties of Metals, 519, 558*
— Profiles of Ships in Motion, Calculation, 532
— Sea, Seismic, 484
Wear in High-Pressure Gear Pumps, 183, 185, 208, 284*, 310*, 334*. See LETTER, 232
— Piston Ring, and Gumming in Petrol Engines, 93*
Weather. See *Meteorology*
Weaver, W. A., on Machine-Tool Disposal Sale, 520. See LETTER, 594
Welded Construction, United States Floating Dry Docks, 193*
Welders, Training Tests for, Specification, 514
Welding Committee, Ship, Admiralty, Work of, 425, 509, 549
— Construction in S.S. "Orcades," 130
— Institute of, Annual Report, 567; Debate on Future of Welding in Shipbuilding, 567
— Machines, Resistance, Report on Rating of, 519
— — Spot, Light-Duty (Metropolitan-Vickers Electrical Co., Ltd.), 69*
— Repairs to War-Damaged Ships, 477*, 502*
— Research Association, British, Constitution of Council, 471
— of Ships, Future of, 350, 567
— Thermit, Repair of Rolling-Mill Pinion by (Murex Ltd.), 32*
— in Water-Tube Boiler Construction, Babcock & Wilcox, Ltd., 271*
Welsh Industries Fair, Cardiff, 581, 607
West Ham Emergency Substation, 57*
Westminster Abbey, Engineers' Memorial Service, 207
Weymouth, Torpedo Manufacture at, 170*
Wharton & Olding, Ltd., Jig and Fixture System, 608*
Wheels, Gear. See *Gears; Marine Propulsion*
— Grinding. See *Grinding* under *Machine Tools*
— Landing, of Aircraft, Single-Disc Brake for, 608*
Whitaker, Dr. J. W., on Training of Fuel Technologists, 165
White, Major S. W., Amalgamation of Institutions of Mechanical and Automobile Engineers, 424. See 183, 253. See LETTERS, 280, 304, 328, 352
Whitehead Torpedo Manufacture, 169*
Whittle, Air-Commodore F., on Whittle Jet-Propulsion Gas Turbine, 212*, 237*, 261*. See *Erratum*, 239
Wickman, A. C., Ltd., Tests of Diamond Lapping Wheels, 271
Wiersema, H., on Kentucky Dam on Tennessee River, 337*, 385*, 433*
Willans, K. W., on Amalgamation of Institutions of Mechanical and Automobile Engineers, 304. See 183, 253. See LETTERS, 280, 328, 352, 424
Williams, E. J., on Significance of Differences in Test Results, 496. See LETTERS, 16, 568
Williams, Dr. F. C., on Circuit Techniques for Radiolocation, 389
Williams-Thompson, R. B., on Machine-Tool Disposal Sales, 594. See LETTER, 520
Wills, W. H., on Single-Phase System for Rural Electrification, 390
Willshaw, W. E., on Magnetrons, 361*
Wilson, J. S., on Tests of Pneumatic Tyres for Farm Tractors, 201
Wilson, M. F. G., the Late, 17
Wilson, R., the Late, 183
Wind Tunnels. See *Aeronautics*
Windings of Alternator-Rotors, Deformation of, 14
Windows, Metal Casement, Specification, 34
— — Wood Surrounds for, Specification, 394
Winterton, Dr. K., on Chill-Cast Phosphorus Bronzes, 153
Wire, Barbed, Reclamation of, 138
— Hanging, Tensions in, 460*
— Rope Slings and Sling Legs, Specification, 250
Wireless Telegraphy. See *Telegraphy*
— Telephony. See *Telephony*
Women Workers. See *Labour*
Wood Flooring, Specification, 562
— Painting, Staining and Varnishing, Specification, 490
— Surrounds for Metal Windows, Specification, 394
— Trim, Specification, 466
Wood-Mallock, J. on Refining Transformer Oils, 379
Woods, A. J., on Peat Combustion for Industrial Steam Heating, 223
Wool, Rock (Review), 292
Woolman, J., Experiments on Overheating Steel, 496
Woolwich Armament Research Department, Machinability Tests, 544, 569, 599*
— Marine Radio School, 514
— Torpedo Manufacture at, 170
Work Hardening and Machinability of Metals, 544
Works:
Engineering Works, Employment of Women. See *Labour*
Iron and Steel Works, Fuel Economy in, 448, 472
— — Works, Volta Redonda, Brazil, 42
Penn, J., & Sons, Greenwich Works of, 177
Works Management, Personnel Management: Its Scope and Practice (Review), 171
— — Statistics of Costs of Machining, 605, 606
— — Time and Motion Study, Manual of (Review), 316
— Ministry of, Investigation on Refrigerated Meat Transport, 453*
Workmen. See *Labour*
Workshop, Maintenance, for Motor Vehicles, Manningham, 296*
— Training. See *Education*
— See also *Works; Machine Tools*
Wright, H. M., on Mineral-Insulated Metal-Sheathed Conductors, 31
— Lecture on Recent Aerodynamic Developments, 541. See *Erratum*, 587
Wrought Light Alloys Association, Manufacture and Production of Aluminium-Alloy Forgings and Stampings, by J. R. Handforth and J. T. Robinson, 138

X.

X-RAY Apparatus, 200 Million-Volt Betatron, 583
— — Diffraction Unit (Philips Lamps, Ltd.), 40

Y.

YANGTZE River Development, Regulation Scheme, 7, 303
Yarn, Moisture Meter for (Record Electrical Co., Ltd.), 89
Year Books. See LITERATURE INDEX

Z.

ZDANOWICH, R., Amalgamation of Institutions of Mechanical and Automobile Engineers, 304. See 183, 253. See LETTERS, 280, 328, 352, 424
Zicawei Meteorological Observatory, Shanghai, 602*
Ziegler, N. A., on Effect of Nickel in Chromium-Molybdenum Steels, 287
Zinc Alloys. See *Alloys* under *Metallurgy*
— Coatings, Corrosion Tests of, 289*
— Polarographic and Spectrographic Analysis of, Specification, 130
Zwartkopjes Pumping Station, 152*

PATENT RECORD.

The Patent Record is classified under the following sub-titles:—AERONAUTICS; AGRICULTURAL APPLIANCES; ELECTRICAL APPARATUS; FURNACE APPARATUS; GUNS AND EXPLOSIVES; HYDRAULIC APPARATUS; INTERNAL-COMBUSTION ENGINES; LIFTING AND HAULING APPLIANCES; MACHINE TOOLS AND MACHINE SHOP EQUIPMENT; METALLURGY; MINING; MISCELLANEOUS; MOTOR VEHICLES; PRINTING AND ALLIED MACHINERY; PUMPS; RAILWAYS AND TRAMWAYS; ROAD VEHICLES; SHIPS AND NAUTICAL APPLIANCES; STEAM ENGINES, BOILERS, ETC.; TEXTILE MACHINERY.

SUBJECT MATTER.

Aeronautics:
Aircraft-Propulsion System. Sir W. G. Armstrong Whitworth (Aircraft), Ltd., and J. Lloyd, 480
Aircraft Wings. Boulton Paul Aircraft, Ltd. and J. D. North, 408
Arrester Hook Gear. Blackburn Aeroplane & Motor Co., Ltd., and G. E. Petty, 504
Axial-Flow Compressor. Metropolitan-Vickers Electrical Co., Ltd., and C. H. Lloyd, 624
Flying-Wing Aircraft. Sir W. G. Armstrong Whitworth (Aircraft), Ltd., and J. Lloyd, 360
Launching Towed Targets. Miles Aircraft, Ltd., and L. C. Heal, 552
Pressure-Cabin Door. Vickers-Armstrongs Ltd., and B. N. Wallis, 264
Propulsion of Aircraft. Sir W. G. Armstrong Whitworth Aircraft, Ltd., and J. Lloyd, 576
Radiator-Shutter Mechanism. Rotax, Ltd., and T. W. Mullns, 24
Safety Clips for Bombs. M. E. Guermont, 96
Searchlights on Aircraft. F. S. Cotton and W. Helmore, 528
Supercharged Aircraft Engine. Bristol Aeroplane Co., Ltd., S. W. Mansell and F. C. I. Marchant, 144
Variable-Pitch Propeller. English Electric Co., Ltd., and P. W. Seewer, 336

Agricultural Appliances:
Converting Wheels to Tracks. Roadless Traction, Ltd., P. H. Johnson and L. W Tripp, 480
Hand-Guided Cultivator. Mechanised Horticultural Implements, Ltd., and G. H. F. Knight, 384
Vibratory Sieve. Bryan Corcoran, Ltd., and G. E. Smith, 240

Electrical Apparatus:
Arc-Rectifier Cubicle. Hewittic Electric Co., Ltd., and A. de M. Browne, 456
Automatic Arc Welder. Whiteley-Read Engineers, Ltd., and J. N. Rowen, 552
Cable-Laying Plough. County of London Electric Supply Co., Ltd., and L. E. W. Humphries, 384
Constant-Voltage Alternator. Mawdsleys, Ltd., and C. W. H. Minchin, 168
Electromagnetic Coupling. English Electric Co., Ltd., H. S. Carnegie and W. E. M. Ayres, 72
Generator-Speed Governor. English Electric Co., Ltd., and P. L. Mardis, 576
Insulator Assembly. Johnson & Phillips, Ltd., and J. H. Stevens, 72
Meter Overload Protection. V. A. Sheridan, 192
Overhead Conductor. T. Bolton & Sons, Ltd., W. E. Alkins and W. F. Slater, 600
Power-Operated Brake. E. R. Elliston, 360
Screened Cable Connector. H. Wood & Co., Ltd., and A. Hayes, 96
Synchronous-Clock Motor. British Vacuum Cleaner and Engineering Co., Ltd., and W. Clark, 216

Furnace Apparatus:
Ashpit Conveyor. J. Thompson (Wolverhampton), Ltd., and G. P. Williams, 192
Ash-Removing Conveyor. Bennis Combustion, Ltd., and A. W. Bennis, 216
Discharge Recorder for Coke Ovens. Colvilles, Ltd., and D. Todd, 264
Furnace Door. F. Mills, 168
Gas Burner. B. H. Schelldrop, 552
Gas Burner. Wellman Smith Owen Engineering Corporation, Ltd., S. Smith, C. H. Smith and R. C. D. Aspland, 624

Guns and Explosives:
Delayed-Action Fuse. Allen West & Co., Ltd., and F. J. Pavitt, 456

Hydraulic Apparatus:
Liquid Strainer. Auto-Klean Strainers, Ltd. and L. W. English, 528
Pipe Coupling. British Ermeto Corporation, Ltd., and S. H. Jones, 168

Internal-Combustion Engines:
Air Filter. British Filters, Ltd., and T. C. Worth, 432
Aluminium-Alloy Pistons. Specialloid, Ltd., and A. A. Cann, 432
Combustion Chamber Design. J. I. Thornycroft & Co., Ltd., and E. B. Walker, 216
Cooling Jacket. Cierva Autogiro Co., Ltd., and C. G. Pullin, 288
Crankcase Ventilation. Vauxhall Motors, Ltd., and M. Platt, 288
Dynamo Drive. Villiers Engineering Co., Ltd., and F. Anstey, 336
Governor-Controlled Fuel Pump. Armstrong Siddeley Motors, Ltd., and T. Clark, 72
Lubricating Overhead-Valve Rockers. Villiers Engineering Co., Ltd., and F. Anstey, 240
Lubrication of Rotary Valves. F. M. Aspin, 456
Oil-Injection Nozzle. Rover Co., Ltd., and W. R. Boyle, 192
Rotation Control of Reversible-Engine. Crossley Bros., Ltd., and H. D. Carter, 384
Torsional Vibration Damper. G. S. Bower, 480

Lifting and Hauling Appliances:
Bomb Slip. Vickers-Armstrongs Ltd., R. K. Pierson and R. A. Firman, 336
Portable Conveyor. Fourways (Engineers), Ltd., and W. C. Fisher, 240

Machine Tools and Machine-Shop Equipment:
Driving Gear for Power Presses. C. J. Rhodes, 288
Feed Mechanism for Power Press. E. Curran & Co., Ltd., and K. C. Goode, 504

Machine Tools and Machine-Shop Equipment:—*continued.*
Form-Grinding Machine. A. R. Sugden & Co. (Engineers), Ltd., and A. R. Sugden, 600
Hand Riveting Gun. F. T. and T. F. Axon, 624
Lead-Screw Assembly. Cammell, Laird & Co., Ltd., J. T. Petrie and R. W. Willis, 168
Length Bar Gauge. Pitter Gauge & Precision Tool Co., and L. E. Glover, 408
Lens-Polishing Machine. Avimo, Ltd., and H. C. M. Stevens, 384
Measurement of Surface Parallelism. Curran Machine Tools, Ltd., J. Curran and H. J. Shervington, 384
Power Traverse for Lathes. Darling & Sellers, Ltd., and A. Cattley, 552
Routing-Machine Work Clamp. Blackburn Aircraft, Ltd., and C. A. Chouler, 336
Spline Ring Gauge. C. & G. Gauges, Ltd., A. Graves and H. Clark, 576
Stock-Feeding Finger for Capstans. G. H. Alexander Machinery, Ltd., and J. H. Guest, 48
Turret-Lathe Stops. Woodhouse & Mitchell, Ltd., and D. Walker, 120

Metallurgy:
Annealing Pots. Incandescent Heat Co., Ltd. and J. Fallon, 336
Ingot Pouring. English Steel Corporation Ltd., E. W. Smith, B. Gray and H. H., Burton, 456

Mining:
Endless Belt Conveyors. R. Sutcliffe, Ltd. and J. Sheppard, 504
Unloading Coal Tubs. The Coppee Co. (Great Britain), Ltd., and H. B. Sheppard, 24

Miscellaneous:
Amphibious Tank. N. Straussler, 600

Miscellaneous—*continued.*

Axial-Flow Compressor. Armstrong Siddeley Motors, Ltd., F. A. M. Heppner and E. Clayton, 312
Bench Vice. J. Evans & Son (Portsmouth), Ltd., and A. G. Marshall, 504
Conveyor Chain. J. E. Walworth, 24
Cycle-Wheel Hub. Birmingham Small Arms Co., Ltd., H. J. W. Roll and S. C. Wilsdon, 360
Expanding Reamer. Hardy Spicer & Co., Ltd., and T. B. Prew, 48
Fuel-Oil Heater. Foster Wheeler, Ltd., and K. E. Humphrey, 120
Packing Gland. N. B. Newton, 144
Power-Operated Brake. E. R. Elliston, 288
Resonance Tester. Austin Motor Co., Ltd., and H. N. Charles, 624
Roller-Bearing Cages. Hoffmann Manufacturing Co., Ltd., and A. K. Brown, 240
Suspension Bridge. Earl of Elgin and Kincardine, 600
Triangle Calculator. E. Bates, 384
Washing and Screening Machine for Gravel. Hardy & Padmore, Ltd., and C. Guise, 72

Motor Vehicles :

Articulated Bogie. V. Loyd & Co. and V. G. Loyd, 336
Disc Wheel. Joseph Sankey & Sons, Ltd., and G. B. Sankey, 96
Gas-Washing Apparatus. Eastern National Omnibus Co., Ltd., and W. J. Morison, 24
Tension Adjuster for Vehicle Tracks. Morris Motors, Ltd., and A. V. Oak, 48

Printing and Allied Machinery :

Sizing and Drying Machine. Hartley's (Stoke-on-Trent), Ltd., and C. J. and A. J. Hartley, 96

Pumps :

Reciprocating Pump. Barr & Stroud, Ltd., and C. D. MacGill, 264
Reciprocating Pump. Greenwood & Batley, Ltd., and J. C. M. Maclagan, 144. See *Erratum*, 192

Railways and Tramways :

Diesel-Electric Locomotive. Crompton Parkinson, Ltd., and H. G. McClean, 480
Electric Locomotive Axle-Bearing. Hoffmann Manufacturing Co., Ltd., and H. Smith, 576
Locomotive Sanding Apparatus. London & North Eastern Railway Co., and W. Downs, 528

Road Vehicles :

Car Body. Sir Roy Fedden and I. G. Duncan, 24
Road Roller. Aveling-Barford, Ltd., and W. H. Bramble, 288

Ships and Nautical Appliances :

Adjustable-Pitch Propeller. English Electric Co., Ltd., and P. W. Seewer, 480
Prefabricated Dock Gates. Head, Wrightson & Co., Ltd., F. J. Walker and Sir T. Wrightson, 408
Remote Recorder for Humidity. Elliott Brothers (London), Ltd., and E. F. Spanner, 312
Roll Stabiliser. W. Denny & Brothers, Ltd., J. F. Allen and Brown Brothers & Co., Ltd., 432

Steam Engines, Boilers, etc. :

Super-Control Equipment. John Thompson Water-Tube Boilers, Ltd., and C. J. Howard, 552
Superheater Header. S. E. Alley, 48
Water-Gauge Mounting. Cockburns, Ltd., J. Rodger and T. Grant, 96

Textile Machinery :

Bobbin-Wheel Support. Tweedales & Smalley (1920), Ltd., and F. Blomley, 24
Carding-Engine Drive. Platt Brothers & Co., Ltd., and I. Marsden, 120
Draw-off Mechanism. B. Toone (Nottingham), Ltd., R. N. Toone and T. L. Allen, 360
Electric Stop Motion. I. L. Berridge & Co., Ltd., and L. H. Colton, 432
Loom-Shuttle Guard. Boardman & Baron, Ltd., J. Sim and W. Sim, 120
Lubrication of High-Speed Shafts. Tecalemit, Ltd., and C. C. S. Le Clair, 312
Picker-Control Mechanism. Hindley Brothers, Ltd., and D. Walton, 240
Warp-Protector Stop Motion. H. S. Cargill and J. A. Galloway, 72

NAMES OF PATENTEES.

Alexander, G. H., Machinery, Ltd., and another. Stock-Feeding Finger for Capstans, 48
Atkins, W. E., and others. Overhead Conductor, 600
Allen, J. F., and others. Roll Stabiliser, 432
Allen, T. L., and others. Draw-off Mechanism, 360
Alley, S. E. Superheater Header, 48
Anstey, F., and others. Dynamo Drive, 336
Anstey, F., and others. Lubricating Overhead-Valve Rockers, 240
Armstrong, Sir W. G., Whitworth (Aircraft), Ltd., and another. Aircraft-Propulsion System, 480
Armstrong, Sir W. G., Whitworth (Aircraft), Ltd., and another. Flying-Wing Aircraft, 360
Armstrong, Sir W. G., Whitworth (Aircraft), Ltd., and another. Propulsion of Aircraft, 576
Armstrong Siddeley Motors, Ltd., and others. Axial-Flow Compressor, 312
Armstrong Siddeley Motors, Ltd., and another. Governor-Controlled Fuel Pump, 72
Aspin, F. M., Lubrication of Rotary Valves, 456
Aspland, R. C. D., and others. Gas Burner, 624
Austin Motor Co., Ltd., and another. Resonance Tester, 624
Auto-Klean Strainers, Ltd., and another. Liquid Strainer, 528
Aveling-Barford, Ltd., and another. Road Roller, 288
Avimo, Ltd., and another. Lens-Polishing Machine, 384
Axon, F. T., and T. F. Hand Riveting Gun, 624
Ayres, W. E. M., and others. Electromagnetic Coupling, 72

Barr & Stroud, Ltd., and another. Reciprocating Pump, 264
Bates, E. Triangle Calculator, 384
Bennis, A. W., and others. Ash-Removing Conveyor, 216
Bennis Combustion, Ltd., and another. Ash-Removing Conveyor, 216
Berridge, I. L., & Co., Ltd., and another. Electric Stop Motion, 432
Birmingham Small Arms Co., Ltd., and others. Cycle-Wheel Hub, 360
Blackburn Aeroplane & Motor Co., Ltd., and another. Arrester Hook Gear, 504
Blackburn Aircraft, Ltd., and another. Routing-Machine Work Clamp, 336
Blomley, F., and others. Bobbin-Wheel Support, 24
Boardman & Baron, Ltd., and others. Loom-Shuttle Guard, 120
Bolton, T., & Sons, Ltd., and others. Overhead Conductor, 600
Boulton Paul Aircraft, Ltd., and another. Aircraft Wings, 408
Bower, G. S. Torsional-Vibration Damper, 480
Boyle, W. R., and others. Oil-Injection Nozzle, 192
Bramble, W. H., and others. Road Roller, 288
Bristol Aeroplane Co., Ltd., and others. Supercharged Aircraft Engine, 144
British Ermeto Corporation, Ltd., and another. Pipe Coupling, 168
British Filters, Ltd., and another. Air Filter, 432
British Vacuum Cleaner & Engineering Co., Ltd., and another. Synchronous Clock Motor, 216
Brown, A. K., and others. Roller-Bearing Cages, 240
Brown Brothers & Co., Ltd., and others. Roll Stabiliser, 432
Browne, A. de M., and others. Arc-Rectifier Cubicle, 456
Burton, H. H., and others. Ingot Pouring, 456

Cammell, Laird & Co., Ltd., and others. Lead-Screw Assembly, 168
Cann, A. A., and others. Aluminium-Alloy Pistons, 432
Cargill, H. S., and another. Warp-Protector Stop Motion, 72
Carnegie, H. S., and others. Electromagnetic Coupling, 72
Carter, H. D., and others. Rotation Control of Reversible Engine, 384
Cattley, A., and others. Power Traverse for Lathes, 552
C. & G. Gauges, Ltd., and others. Spline Ring Gauge, 576
Charles, H. N., and others. Resonance Tester, 624
Chouler, C. A., and others. Routing-Machine Work Clamp, 336
Cierva Autogiro Co., Ltd., and another. Cooling Jacket, 288
Clark, H., and others. Spline Ring Gauge, 576
Clark, T., and others. Governor-Controlled Fuel Pump, 72
Clark, W., and others. Synchronous Clock Motor, 216
Clayton, E., and others. Axial-Flow Compressor, 312
Cockburns, Ltd., and others. Water-Gauge Mounting, 96
Colton, L. H., and others. Electric Stop Motion, 432
Colvilles, Ltd., and another. Discharge Recorder for Coke Ovens, 264
Coppee Co. (Great Britain), Ltd., and another. Unloading Coal Tubs, 24
Concoran, B., Ltd., and another. Vibratory Sieve, 240
Cotton, F. S., and another. Searchlights on Aircraft, 528
County of London Electric Supply Co., Ltd., and another. Cable-Laying Plough, 384
Crompton Parkinson, Ltd., and another. Diesel-Electric Locomotive, 480
Crossley Brothers, Ltd., and another. Rotation Control of Reversible Engine, 384
Curran, E., & Co., Ltd., and another. Feed Mechanism for Power Press, 504
Curran, J., and others. Measurement of Surface Parallelism, 384
Curran Machine Tools, Ltd., and others. Measurement of Surface Parallelism, 384

Darling & Sellers, Ltd., and another. Power Traverse for Lathes, 552
Denny, W., & Brothers, Ltd., and others. Roll Stabiliser, 432
Downs, W., and others. Locomotive Sanding Apparatus, 528
Duncan, I. G., and another. Car Body, 24

Eastern National Omnibus Co., Ltd., and another. Gas-Washing Apparatus, 24
Elgin and Kincardine, Earl of. Suspension Bridge, 600
Elliott Brothers (London), Ltd., and another. Remote Recorder for Humidity, 312
Elliston, E. R. Power-Operated Brake, 288, 360
English Electric Co., Ltd., and another. Adjustable-Pitch Propeller, 480
English Electric Co., Ltd., and others. Electromagnetic Coupling, 72
English Electric Co., Ltd., and another. Generator-Speed Governor, 576
English Electric Co., Ltd., and another. Variable-Pitch Propeller, 336
English, L. W., and others. Liquid Strainer, 528
English Steel Corporation, Ltd., and others. Ingot Pouring, 456
Evans, J., & Son (Portsmouth), Ltd., and another. Bench Vice, 504

Fallon, J., and others. Annealing Pots, 336
Fedden, Sir Roy, and another. Car Body, 24
Firman, R. A., and others. Bomb Slip, 336
Fisher, W. C., and others. Portable Conveyor, 240
Foster Wheeler, Ltd., and another. Fuel-Oil Heater, 120
Fourways (Engineers), Ltd., and another. Portable Conveyor, 240

Galloway, J. A., and another. Warp-Protector Stop Motion, 72
Glover, L. E., and others. Length Bar Gauge, 408
Goode, K. C., and others. Feed Mechanism for Power Press, 504
Grant, T., and others. Water-Gauge Mounting, 96
Graves, A., and others. Spline Ring Gauge, 576
Gray, B., and others. Ingot Pouring, 456
Greenwood & Batley, Ltd., and another. Reciprocating Pump, 144. See *Erratum*, 192
Guermont, M. E. Safety Clip for Bombs, 96
Guest, J. H., and others. Stock-Feeding Finger for Capstans, 48
Guise, C., and others. Washing and Screening Machine for Gravel, 72

Hardy & Padmore, Ltd., and another. Washing and Screening Machine for Gravel, 72
Hardy, Spicer & Co., Ltd., and another. Expanding Reamer, 48
Hartley, C. J. and A. J., and others. Sizing and Drying Machine, 96
Hartleys (Stoke-on-Trent), Ltd., and others. Sizing and Drying Machine, 96
Hayes, A., and others. Screened Cable Connector, 96
Head, Wrightson & Co., Ltd., and others. Prefabricated Dock Gates, 408
Heal, L. C., and others. Launching Towed Targets, 552
Helmore, W., and another. Searchlights on Aircraft, 528
Heppner, F. A. M., and others. Axial-Flow Compressor, 312
Hewittic Electric Co., Ltd., and another. Arc-Rectifier Cubicle, 456
Hindley Brothers, Ltd., and another. Picker-Control Mechanism, 240
Hoffmann Manufacturing Co., Ltd., and another. Electric-Locomotive Axle Bearing 576
Hoffmann Manufacturing Co., Ltd., and another. Roller-Bearing Cages, 240
Howard, C. J., and others. Superheat-Control Equipment, 552
Humphrey, K. E., and others. Fuel-Oil Heater 120
Humphries, L. E. W., and others. Cable-Laying Plough, 384

Incandescent Heat Co., Ltd., and another. Annealing Pots, 336

Johnson, P. H., and others. Converting Wheels to Tracks, 480
Johnson & Phillips, Ltd., and another. Insulator Assembly, 72
Jones, S. H., and others. Pipe Coupling, 168

Knight, G. H. F., and others. Hand-Guided Cultivator, 384

Le Clair, C. C. S., and others. Lubrication of High-Speed Shafts, 312
Lloyd, C. H., and others. Axial Flow Compressor, 624
Lloyd, J., and others. Aircraft Propulsion System, 480
Lloyd, J., and others. Propulsion of Aircraft, 576
Lloyd, J., and others. Flying-Wing Aircraft, 360
London & North Eastern Railway Co., and another. Locomotive Sanding Apparatus, 528
Loyd, V., & Co., and another. Articulated Bogie, 336
Loyd, V. G., and others. Articulated Bogie, 336

MacGill, C. D., and others. Reciprocating Pump, 264
Maclagan, J. C. M., and others. Reciprocating Pump, 144. See *Erratum*, 192
Mansell, S. W., and others. Supercharged Aircraft Engine, 144
Marchant, F. C. I., and others. Supercharged Aircraft Engine, 144
Mardis, P. L., and others. Generator-Speed Governor, 576
Marsden, I., and others. Carding-Engine Drive, 120
Marshall, A. G., and others. Bench Vice, 504
Mawdsley's, Ltd., and another. Constant-Voltage Alternator, 168
McLean, H. G., and others. Diesel-Electric Locomotive, 480
Mechanised Horticultural Implements, Ltd., and another. Hand-Guided Cultivator, 384
Metropolitan-Vickers Electrical Co., Ltd., and another. Axial-Flow Compressor, 624
Miles Aircraft, Ltd., and another. Launching Towed Targets, 552
Millns, T. W., and others. Radiator-Shutter Mechanism, 24
Mills, F. Furnace Door, 168
Minchin, C. W. H., and others. Constant-Voltage Alternator, 168
Morison, W. J., and others. Gas-Washing Apparatus, 24
Morris Motors, Ltd., and another. Tension Adjuster for Vehicle Tracks, 48

Newton, N. B. Packing Gland, 144
North, J. D., and others. Aircraft Wings, 408

Oak, A. V., and others. Tension Adjuster for Vehicle Tracks, 48

Pavitt, F. J., and others. Delayed-Action Fuse, 456
Petrie, J. T., and others. Lead-Screw Assembly, 168
Petty, G. E., and others. Arrester-Hook Gear, 504
Pierson, R. K., and others. Bomb Slip, 336
Pitter Gauge & Precision Tool Co., Ltd., and another. Length Bar Gauge, 408
Platt Brothers & Co., Ltd., and another. Carding-Engine Drive, 120
Platt, M., and others. Crankcase Ventilation, 288
Prew, T. B., and others. Expanding Reamer, 48
Pullin, C. G., and others. Cooling Jacket, 288

Rhodes, C. J. Driving Gear for Power Presses, 288
Roadless Traction, Ltd., and others. Converting Wheels to Tracks, 480
Rodger, J., and others. Water-Gauge Mounting, 96
Roll, H. J. W., and others. Cycle-Wheel Hub, 360
Rotax, Ltd., and another. Radiator-Shutter Mechanism, 24
Rover Co., Ltd., and another. Oil-Injection Nozzle, 192
Rowen, J. N., and others. Automatic Arc Welder, 552

Sankey, G. B., and others. Disc Wheel, 96
Sankey, J., & Sons, Ltd., and another. Disc Wheel, 96
Schieldrop, B. H. Gas Burner, 552
Seewer, P. W., and others. Variable-Pitch Propeller, 336, 480
Sheppard, H. B., and others. Unloading Coal Tubs, 24
Sheppard, J., and others. Endless Belt Conveyors, 504
Sheridan, V. A. Meter Overload Protection, 192
Shervington, H. J., and others. Measurement of Surface Parallelism, 384
Sim, J. and W., and others. Loom-Shuttle Guard, 120
Slater, W. F., and others. Overhead Conductor, 600
Smith, C. H., and others. Gas Burner, 624
Smith, E. W., and others. Ingot Pouring, 456
Smith, G. E., and others. Vibratory Sieve, 240
Smith, H., and others. Electric-Locomotive Axle Bearing, 576
Smith, S., and others. Gas Burner, 624
Spanner, E. F., and others. Remote Recorder for Humidity, 312
Specialloid, Ltd., and another. Aluminium-Alloy Pistons, 432
Straussler, N., Amphibious Tank, 600
Stevens, H. C. M., and others. Lens-Polishing Machine, 384
Stevens, J. H., and others. Insulator Assembly, 72
Sugden, A. R., and others. Form-Grinding Machine, 600
Sugden, A. R., & Co. (Engineers), Ltd., and another. Form-Grinding Machine, 600
Sutcliffe, R., Ltd., and another. Endless Belt Conveyors, 504

Tecalemit, Ltd., and another. Lubrication of High-Speed Shafts, 312
Thompson, John, Water-Tube Boilers, Ltd., and another. Superheat Control, 552
Thompson, John (Wolverhampton), Ltd., and another. Ashpit Conveyor, 192
Thornycroft, J. I., & Co., Ltd., and another. Combustion-Chamber Design, 216
Todd, D., and others. Discharge Recorder for Coke Ovens, 264
Toone, B. (Nottingham), Ltd., and others. Draw-Off Mechanism, 360
Toone, R. N., and others. Draw-Off Mechanism, 360
Tripp, L. W., and others. Converting Wheels to Tracks, 480
Tweedales & Smalley (1920), Ltd., and another. Bobbin-Wheel Support, 24

Vauxhall Motors, Ltd., and another. Crankcase Ventilation, 288
Vickers-Armstrongs Ltd., and others. Bomb Slip, 336
Vickers-Armstrongs Ltd., and another. Pressure-Cabin Door, 264
Villiers Engineering Co., Ltd., and another. Dynamo Drive, 336
Villiers Engineering Co., Ltd., and another. Lubricating Overhead-Valve Rockers, 240

Walker, D., and others. Turret-Lathe Stops, 120
Walker, E. B., and others. Combustion Chamber Design, 216
Walker, F. J., and others. Prefabricated Dock Gates, 408
Wallis, B. N., and others. Pressure-Cabin Door, 264
Walton, D., and others. Picker-Control Mechanism, 240
Walworth, J. E. Conveyor Chain, 24
Wellman Smith Owen Engineering Corporation, Ltd., and others. Gas Burner, 624
West, A., & Co., Ltd., and another. Delayed-Action Fuse, 456
Whiteley-Read Engineers, Ltd., and another. Automatic Arc Welder, 552
Williams, G. P., and others. Ashpit Conveyor, 192
Willis, R. W., and others. Lead-Screw Assembly, 168
Wilsdon, S. C., and others. Cycle-Wheel Hub, 360
Wood, H., & Co., Ltd., and another. Screened Cable Connector, 96
Woodhouse & Mitchell, Ltd., and another. Turret-Lathe Stops, 120
Worth, T. C., and others. Air Filter, 432
Wrightson, Sir T., and others. Dock Gates, 408

LITERATURE.

AERONAUTICAL Research Facilities in Ottawa, Official Brochure, 550
Aeronautical Society, Royal, 80th Anniversary Number of Journal, 120
Aeronautical Terms, Dictionary of, by Group Captain H. Nelson, 235
Aircraft Production, Planning for, by M. P. Guibert, 437
Almanacs and Calendars, 68, 76, 114, 298, 486
Almanack, Whitaker's, for 1946, 264
Alternating-Current Motors and Control Gear, by C. H. C. Cooke, 144
Analysis of Iron, Steel and Ferro-Alloys, Standard Methods, 282
Annuals and Reference Books, 18, 71, 139, 264, 408, 432, 490, 576
Arc Welding Manual, Quasi-Arc Co., Ltd., 390
Arch Design Simplified, by W. A. Fairhurst, 316
Architects' Year-Book, 1945, 432
Architectural Engineering Record, Winter, 1945-46 Issue, 56
Arms, Calling All, by E. Fairfax, 235
Automatic Machine Operation, Economics of, by E. E. Fluskey, 532
Avery, W. & T., Ltd., Soho Foundry, by W. K. V. Gale, 390
Aviation Magazine, Swiss, "Interavia," First Issue, 622

BALL Bearings in War Equipment (Hoffman Manufacturing Co., Ltd.), 141
Basis of Sheet Metal Drafting, by W. H. Hedley, 267
Beware Japan's Leaders, by H. E. Metcalf, 78
Beyer Peacock & Co., Ltd., Book on Second World War, 227
Blue Book, Electrical Trades Directory, 1946, 408
Books, New, Notes on, 78, 144, 151, 235, 260, 282, 390, 528, 547
Books Received, 10, 34, 58, 82, 106, 130, 154, 178, 202, 226, 250, 274, 298, 322, 346, 370, 394, 418, 442, 466, 490, 514, 538, 562, 586, 610
Bridge Building, Arch Design Simplified, by W. A. Fairhurst, 316
Bridge Construction and Design, Memorandum on, 580
British Corporation Register of Ships, 576
British Engineers' Association Handbook, 1945, 139
British Railways, by A. Elton, 260
Broadcasting, Radio Receiver Design, by Dr. K. R. Sturley, 459
Buckling Strength of Members and Structures, by Prof. Dr.-Ing. J. Ratzersdorfer, 292
Building, Architects' Year-Book 1945, 432
Building, Cast-Iron in, by R. Sheppard, 5
Building the Ships: The Official Story of the Shipyards in Wartime, 171
Butterley Co., Ltd., History of, 1790-1946, 479

CALENDARS and Almanacs, 68, 76, 114, 298, 486
Calling All Arms, by E. Fairfax, 235
Canada, Aeronautical Research Facilities in Ottawa, Official Brochure, 550
Canada, Iron-Foundry Control Methods, St. Lawrence Metals and Alloys, Ltd., Booklet, 112
Canal, Standedge, and Railway Tunnels, Woodhead Railway Tunnel Centenary, by S. Chadwick, 151
Capstan and Turret Lathes, by W. C. Durney, 5
Cast-Iron in Building, by R. Sheppard, 5
Chemical Industries, Edited by L. Ivanovszky, 490
Chemical and Mechanical Engineering, Use of Wood in, by D. D. Narayanamurti, 235
Chemistry, Applied, Dictionary of, Fourth Edition. Vol. VII. Iodazide to Metellagic Acid. Edited by Dr. M. A. Whiteley, 460
Civil Engineers' Data Book, Vol. I. Design, by E. E. Seelye, 219
Civil Engineering as a Career, Institution of Civil Engineers Pamphlet, 340
Coal-Mining Industry, Plans for Recruitment, Education and Training, by Dr. R. W. Revans, 554
Contracts and Specifications, Engineering, by R. W. Abbett, 147
Control, Industrial Process, Principles of, by D. P. Eckman, 5

DAMS, Engineering for, by W. F. Creager, J. D. Justin and J. Hinds, 195
Data Book for Civil Engineers, Vol. I. Design, by E. E. Seelye, 219
"De Havilland Gazette," Resumption of Publication, 74
Denny-Brown Ship Stabiliser, Booklet on, 132
Dermatitis, Industrial, Prevention, Innoxa (England), Ltd., Booklet, 115
Design, Vol. I of Data Book for Civil Engineers, by E. E. Seelye, 219
Diary, United Steel Companies, Ltd., 33
Dictionary of Aeronautical Terms, by Group Captain H. Nelson, 235
Dictionary of Applied Chemistry, Fourth Edition. Vol. VII. Iodazide to Metellagic Acid. Edited by Dr. M. A. Whiteley, 460
Dictionary of Engineering and Machine Shop Terms, by A. H. Sandy, 576
Dictionary of Metallography, by R. T. Rolfe, 267
Directory, Universal, of Railway Officials, and Railway Year Book, 1945-1946, 18
Distribution and Utilisation of Electricity, by E. O. Taylor, 267
Drafting of Sheet Metal, Basis of, by W. H. Hedley, 267
Draughtsmanship, by R. F. Reekie, 507
Dressing, Mineral, Handbook of. Vol. I. Ores and Industrial Minerals, by Prof. A. F. Taggart and Others, 260
Dutch Railways, War Damage to, Brochure, 537
Dynamics and Statics for Engineers, by Profs. E. R. Maurer, R. J. Roark and G. W. Washa, 554

EARTH-Creep Theory, by Dr. B. Haefeli, 547
Economics of Automatic Machine Operation, by E. E. Fluskey, 532
Electric Wave Filters, Introduction to the Theory and Design of, by F. Scowen, 171
Electric Welders, Handbook for, 282
Electrical and Engineering Trades Directory (Blue Book), 1946, 408
Electrical Power Transmission Networks, Use of, by Carrier Waves on, by A. Chevallier, 532
Electrical and Radio Engineers, Plastics for, by W. J. Tucker and R. S. Roberts, 482
Electricity, Distribution and Utilisation of, by E. O. Taylor, 267
Electron Optics and the Electron Microscope, by V. K. Zworykin, G. A. Morton, E. G. Ramberg, J. Hillier and A. W. Vance, 340
Elementary Mechanics of Fluids, by Prof. H. Rouse, 506
Engineers, Mechanics for, Statics and Dynamics, by Profs. E. R. Maurer, R. J. Roark and G. W. Washa, 554
Engineers, Young, Surveying for, by S. W. Perrott, 390
Engineering, Advanced Education in Manchester District, Official Booklet, 74
Engineering, Civil, as a Career, Institution of Civil Engineers Pamphlet, 340
Engineering Contracts and Specifications, by R. W. Abbett, 147
Engineering for Dams by W. F. Creager, J. D. Justin and J. Hinds, 195
Engineering and Machine-Shop Terms, Dictionary of, by A. H. Sandy, 576
Engineering, Optical Instruments in, by S. H. Hemsley, 316

FIRST Railway Between Manchester and Sheffield, by G. Dow, 52
Fluids, Elementary Mechanics of, by Prof. H. Rouse, 506
Fluid Motion, Reynolds Number: Its Meaning and Significance, by J. Jennings, 507
Food Industries Manual, Fourteenth Edition, 547
Foremanship, New, by F. J. B. Morton, 528
Forge, Kirkstall, History of, Through Seven Centuries, 1200-1945, by R. Butler, 412
Foundry, Soho (W. & T. Avery, Ltd.), by W. K. V. Gale, 390

GLOVE, Invisible, Prevention of Industrial Dermatitis, Innoxa (England), Ltd., Booklet, 115
Gresley, Sir Nigel, Locomotives of, by O. S. Nock, 196
Grinding, Workshop, Precision. Churchill Machine Tool Co., Russian Edition, 581

HANDBOOK, British Engineers' Association, 1496, 139
Handbook for Electric Welders, 282
Handbook of Mineral Dressing. Vol. I. Ores and Industrial Minerals, by Prof. A. F. Taggart and others, 260
Handbook, Railway, 1945-46, 71
Haulage, Underground, Modern Methods for Mining Engineers, by H. R. Wheeler, 52
High-Speed Marine Oil Engines, P. N. Everett, 226
History of Kirkstall Forge through Seven Centuries, 1200-1945, by R. Butler, 412
Hoffman Bearings in War Equipment, Brochure, 141

INDUSTRIAL Process Control, Principles of, By D. P. Eckman, 5
Industrial Research, 1946, Edited by Prof. E. N. da C. Andrade, 603
Industries, New Foremanship, by F. J. B. Morton, 528
Instruments, Optical, in Engineering, by S. H. Hemsley, 316
Instruments, Scientific, Edited by H. J. Cooper, 506
"Interavia," Swiss Aviation Magazine, First Issue, 622
Introduction to the Theory and Design of Electric Wave Filters, by F. Scowen, 171
Inventions in the Netherlands during the 16th, 17th and 18th Centuries, Patents for, by G. Doorman, 340
Invisible Glove, Prevention of Industrial Dermatitis, Innoxa (England), Ltd., Booklet 115
Ireland, Ulster To-Day, Official Pamphlet, 178
Iron, Cast, Use in Building, by R. Sheppard, 5
Iron, Cast, Welding by Oxy-Acetylene Process by L. Tibbenham, 282
Iron Foundry Control Methods, St. Lawrence Metals & Alloys, Ltd., Booklet, 112
Iron, Steel and Ferro-Alloys, Standard Methods of Analysis, 282
Iron and Steel Institute Journal, Change of Format, 227

JAPAN'S Leaders, Beware of, by H. E. Metcalf, 78

KIRKSTALL Forge, History Through Seven Centuries, 1200-1945, by R. Butler, 412
Knickfestigkeit von Stäben und Stabwerken, by Prof. Dr. Ing. J. Ratzersdorfer, 292

LABOUR, Law of Trade Unions, by H. Samuels, 363
Lathes, Capstan and Turret, by W. C. Durney, 5
Locomotives of Sir Nigel Gresley, by O. S. Nock, 196

MACHINES, Automatic, Operation and Economics of, by E. E. Fluskey, 532
Machine-Shop and Engineering Terms, Dictionary of, by A. H. Sandy, 576
Machine Tools, Capstan and Turret Lathes, by W. C. Durney, 5
Machine Tools, Tools and Attachments for Single-Spindle Automatic Screw Machines, Burton, Griffiths & Co., Ltd., 151
Machining of Steel Simply Explained, by Dr. F. C. Lea and E. N. Simons, 436
Management, Personnel: Its Scope and Practice, by Dr. C. H. Northcott, 171
Manchester, Advanced Education in Engineering, Official Booklet, 74
Manchester and Sheffield, First Railway Between, by G. Dow, 52
Manual of Modern Underground Haulage Methods for Mining Engineers, by H. R. Wheeler, 52
Manual, Welding, Quasi Arc, 390
Manual of Time and Motion Study, by J. W. Hendry, 316
Marine Engineering, Introduction to, by Cmdr. (E.) A. F. Smith, 26
Marine Oil Engines, High-Speed, by P. N. Everett, 226
Materials, Raw, from the Sea, by Dr. E. F. Armstrong and L. M. Miall, 53
Mathematics, Advanced, for Technical Students, Part I, by A. Geary, H. V. Lowry and Dr. H. A. Hayden, 554
Mechanical and Chemical Engineering, Use of Wood in, by Dr. D. Narayanamurti, 235
Mechanics, Elementary, of Fluids, by Prof. H. Rouse, 506
Mechanics for Engineers, Statics and Dynamics, by Profs. E. R. Maurer, R. J. Roark and G. W. Washa, 554
Members and Structures, Buckling Strength of, by Prof. Dr. Ing. J. Ratzersdorfer, 292
Memorandum on Bridge Design and Construction, 580
Merseyside Plan, 1944. Supplementary Official Illustrations, 78
Metal, Sheet, Basis of Drafting, by W. H. Hedley, 267
Metallography, Dictionary of, by R. T. Rolfe, 267
Metallurgical Analysis by the Spectrograph, Collected Papers, Edited by D. M. Smith, 26
Metallurgy, Dictionary of Metallography, by R. T. Rolfe, 267
Metallurgy, Standard Methods of Analysis of Iron, Steel and Ferro-Alloys, 282
Metallurgy, Steel and its Practical Applications, by W. Barr and A. J. K. Honeyman, 99
Metallurgy, Welding. See *Welding*
Microscope, Electron, and Electron Optics, by V. K. Zworykin, G. A. Morton, E. G. Ramberg, J. Hillier and A. W. Vance, 340
Mineral Dressing, Handbook of, Vol. I. Ores and Industrial Minerals, by Prof. A. F. Taggart and others, 260
Mining Engineers, Modern Underground Haulage Methods for, by H. R. Wheeler, 52
Mining Industry, Coal, Plans for Recruitment, Education and Training, by Dr. R. W. Revans, 554
Motion Study, Manual of, by J. W. Hendry, 316
Motors, Alternating-Current, and Control Gear, by C. H. C. Cooke, 144

NETHERLANDS, Patents for Inventions During the 16th, 17th and 18th Centuries, by G. Doorman, 340

OIL, Tables for Measurement, Institute of Petroleum, 139
Optical Instruments in Engineering, by S. H. Hemsley, 316
Optics, Electron, and the Electron Microscope, by V. K. Zworykin, G. A. Morton, E. G. Ramberg, J. Hillier and A. W. Vance, 340
Oxy-Acetylene Process, Welding of Cast Iron by, by L. Tibbenham, 282
Oxy-Acetylene Welding Repair Manual, by C. G. Bainbridge and F. Clark, 528

PAPERS, Collected, on Metallurgical Analysis by the Spectrograph, Edited by D. M. Smith, 26
Passengers, Railway, Class Distinction, by C. E. Lee, 603
Patents for Inventions in the Netherlands During the 16th, 17th and 18th Centuries, by G. Doorman, 340
Personnel Management: Its Scope and Practice, by Dr. C. H. Northcott, 171
Phenolic Plastics, by A. T. Birkby, 151
Plan de Fabrication Aéronautique, by M. P. Guibert, 437
Plan, Merseyside, 1944. Supplementary Official Illustrations, 78
Plans for Recruitment, Education and Training in the Coal Mining Industry, by Dr. R. W. Revans, 554
Plastics for Electrical and Radio Engineers, by W. J. Tucker and R. S. Roberts, 482
Plastics, Phenolic, by A. T. Birkby, 151
Power Transmission Networks, High Tension, Use of Carrier Waves on, by A. Chevalier, 532
Principles of Industrial Process Control, by D. P. Eckman, 5

QUASI-ARC Welding Manual, 390

RADIO Engineers, Plastics for, by W. J. Tucker and R. S. Roberts, 482
Radio-Receiver Design, by Dr. K. R. Sturley, 459
Railways, British, by A. Elton, 260
Railways, Dutch, War Damage Brochure, 537
Railway Engineering Abstracts, 264
Railway, First, Between Manchester and Sheffield, by G. Dow, 52
Railway Handbook, 1945-46, 71
Railways, Locomotives of Sir Nigel Gresley, by O. S. Nock, 196
Railway Officials, Universal Directory of, and Railway Year Book, 1945 1946, 18
Railway Passenger Class Distinctions, by C. E. Lee, 603
Railway Traffic Operation, Outline of, by T. F. Cameron, 460
Railway Tunnel, Woodhead, Centenary, by S. Chadwick, 151
Raw Materials from the Sea, by Dr. E. F. Armstrong and L. M. Miall, 53
Receivers, Radio, Design of, by Dr. K. R. Sturley, 459
Reference Books. See *Annuals*
Research, Industrial, 1946, Edited by Prof. E. N. da C. Andrade, 603
Reynolds Number: Its Meaning and Significance, by J. Jennings, 507
Rock Wool, by E. M. Guppy and J. Phemister, 292

SCIENTIFIC Instruments, Edited by H. J. Cooper, 506
Screw Machines, Single-Spindle Automatic, Tools and Attachments for, Burton Griffiths & Co., Ltd., 151
Sea, Raw Materials from, by Dr. E. F. Armstrong and L. M. Miall, 53
Second World War, Beyer Peacock & Co., Ltd., Book, 227
Sheet Metal Drafting, Basis of, by W. H. Hedley, 267
Sheffield and Manchester, First Railway Between, by G. Dow, 52
Ship Register, British Corporation, 576
Ship Stabiliser, Retractable-Fin, Denny-Brown, Booklet on, 132
Ships' Structures, Welding of, Investigation, Report, by J. Turnbull, 151
Shipyards in Wartime, Official Story of, 171
Soho Foundry (W. & T. Avery, Ltd.), by W. K. V. Gale, 390
Specifications and Contracts, Engineering, by R. W. Abbett, 147
Spectrographic Analysis, Metallurgical, Collected Papers on, Edited by D. M. Smith, 26
Standard Methods, Analysis of Iron, Steel and Ferro Alloys, 282
Standedge Canal and Railway Tunnels, and Woodhead Railway Tunnel Centenary, by S. Chadwick, 151
Statics and Dynamics for Engineers, by Prof. E. R. Maurer, R. J. Roark and G. W. Washa, 554
Steel, Machining of, Simply Explained, by Dr. F. C. Lea and E. N. Simons, 436
Steel and Its Practical Applications, by W. Barr and A. J. K. Honeyman, 99
Structural Statics, Lectures on, Vol. I, by Prof. F. Stüssi, 579
Structures and Members, Buckling Strength of, by Prof. Dr. Ing. J. Ratzersdorfer, 292
Surveying for Young Engineers, by S. W. Perrott, 390
Swiss Aviation Magazine "Interavia," First Issue, 622

TABLES for Measurement of Oil, Institute of Petroleum, 139
Télétransmissions par Ondes Porteuses dans les Réseaux de Transport d'Energie à Haute Tension, by A. Chevallier, 532
Thorpe's Dictionary of Applied Chemistry, Fourth Edition. Vol. VII. Iodazide to Metellagic Acid. Edited by Dr. M. A. Whiteley, 460
Timber in Mechanical and Chemical Engineering, by Dr. D. Narayanamurti, 235
Time and Motion Study, Manual of, by J. W. Hendry, 316
Tools and Attachments for Single-Spindle Automatic Screw Machines, Burton Griffiths & Co., Ltd., 151
Trade Unions, Law of, by H. Samuels, 363
Traffic Operation, Railway, Outline of, by T. F. Cameron, 460
Tunnel, Woodhead Railway, Centenary, and Standedge Canal and Railway Tunnels, by S. Chadwick, 151

ULSTER To-day, Official Pamphlet, 178
Underground Haulage Methods, Modern, for Mining Engineers, by H. R. Wheeler, 52
Unions, Trade, Law of, by H. Samuels, 363
Universal Directory of Railway Officials and Railway Year Book, 1945-1946, 18

VORLESUNGEN über Baustatik, Vol. I, by Prof. F. Stüssi, 579

WAR, Calling All Arms, by E. Fairfax, 235
War Equipment, Hoffman Bearings in, Brochure on, 141
War, World, Second, Beyer Peacock & Co., Ltd., Book, 227
Wave Filters, Electric, Introduction to Theory and Design of, by F. Scowen, 171
Welders, Electric, Handbook for, 282
Welding of Cast-Iron by Oxy-Acetylene Process, by L. Tibbenham, 282
Welding, Oxy-Acetylene, Repair Manual, by C. G. Bainbridge and F. Clark, 528
Welding, Quasi Arc, Manual of, 390
Welding of Ships' Structures, Investigation of, Report, by J. Turnbull, 151
Whitaker's Almanack for 1946, 264
Wood in Mechanical and Chemical Engineering, by Dr. D. Narayanamurti, 235
Woodhead Railway and Tunnel Centenary, and Standedge Canal and Railway Tunnels, by S. Chadwick, 151
Wool, Rock, by E. M. Guppy and J. Phemister, 292
Workshop Precision Grinding, Churchill Machine Tool Co., Russian Edition, 581
World War, Second, Beyer Peacock & Co., Ltd., Book, 227

YEAR-BOOK, Architects', 1945, 432
Year Book, Railway, and Universal Directory of Railway Officials, 1945-1946, 18

ZUR Erd- und Kriechdrucktheorie, by Dr. R. Haefeli, 547

PARAGRAPHS.

Aeronautics :

Aeronautical Collection at Science Museum, Re-opening, 345
Aircraft Composite Construction, 296
Aircraft Engine and Carburettor Testing in Factories, 34
Anti Submarine School, 138
Boat, Plywood (Aero Research), 492
Busk Studentship, 442
Catering, Electrical, for Air Liners, 539
De Havilland Gazette, Resumption of, 74
Engine, Aero Jet, Manufacture in China, 466
Filters, Standard, "Airpel," 439
Flight, High-Speed, 58
Gray, Thomas, Memorial Trust Prizes, 587
"Interavia," Swiss Aviation Magazine, 622
Journal of Royal Aeronautical Society, 80th Anniversary Number, 120
Ottawa, Research Facilities in, 550
Rootes Securities, Ltd., Progress of, Film, 412
Short Brothers, Transfer to Belfast, 563
Supply and Aircraft Production Ministries, Regional Controllers, 44
Turbines, Gas, for Aircraft Propulsion, 175
Wilbur Wright Memorial Lecture, 139, 587, 600
"Wings Over the World," Magazine, 545

Agriculture :

"Agricultural Engineering Record," 56
Electricity Supply to Farms, 376, 383
Farm Machinery and Spare Parts, 367
Tractor, "Atom," Semi Crawler, *Erratum*, 35

Alloys. See *Mining and Metallurgy*

Appointments, Awards and Honours :

Albert Medal, 264
Bessemer Gold Medal, 347
Butterworth Award, 82
Constantine Award, 82
Gray Memorial Trust Prizes, 587
Herbert Jackson Prize, L.M.S.R., 175
Mining and Metallurgy, Institution of, Gold Medal, 489
Royal Aeronautical Society, Branch Prize and Usborne Prize, 395
Trasenster Medal, 346
United States Medal of Merit, Award, 209

Associations :

Alar, Ltd., 55
Electrical Association, Municipal, Incorporated, 162
Electrical Association for Women, 515
Filter Manufacturers, Associated, British Society of, 224
Ingenieurs Sortis de l'Ecole de Liège, 346
Model Engineering Trade Association, 87
Motor Agents, 33
Quality Control, Society for, 95
Reinforcement Steel Engineers' Association, 514
Sheffield Metallurgical Association, 562
Tar Confederation, British, 167

Automobiles. See *Motor Cars*

Boilers. See *Engines and Boilers*

Bridges :

Dorman, Long & Co.'s Constructions, 370
Rhine Bridge, Baerle, Re-opened to Traffic, 246

Buildings and Building Construction :

Earth Pressure, Lectures on, 235
Factories, Government, Allocation of, 275
Glassworks Extensions for Factory Re-equipment, 237
Plant and Buildings, Whiteley-Read, 538
Waverley Station, Edinburgh, Roof Restoration, 237
Yarn Factory, Nylon, 604

Catalogues. See *Miscellaneous*

Cement and Concrete :

China, Cement Plants for, 587
Portland Cement, Mechanical Analysis of, *Erratum*, 496

Chemistry. See *Physics and Chemistry*

Coal :

Cardiff, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611
Colliery Tub-Handling Equipment, 18
French Production, 226
Mining Machinery, Tapered Roller Bearings for, 508
Opencast Production, 259
Scottish Coal Trade, 11, 35, 59, 107, 131, 155, 179, 203, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611
Sheffield, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611

Colleges. See *Education*

Companies :

Butterley Co., Ltd., 479
Dorman, Long & Co., Ltd., 371
Kent, G., Ltd., Fire at Luton Works, 515
Short Brothers, Transfer to Belfast, 563

Concrete. See *Cement and Concrete*

Cranes, Etc. :

Canada, British Lifts and Escalators Contract, 366. See *Erratum*, 394
Conveying and Lifting Equipment (Robson), 404

Docks. See *Harbours*

Education :

Anti-Submarine School, Joint, 138
Busk Studentship in Aeronautics, 442
Cass, Sir John, Technical Institute, 611
Chemical Engineering, Bursaries in, 611
Crystallography, X-Ray, Summer School for, Cambridge, 581
Derby Society of Engineers, Chief Patron's Prize, 30
Engineering Education, Advanced, in Manchester, 74
Lectures, Weld Testing in Holland, 56; High-Speed Flight, 58; Engineering Research, London University, 59; Chadwick Public, 68; Wilbur Wright, 139, 587, 600; Internal-Combustion Turbines, 159; Road Transport Vehicles, Electrical Equipment, 188; Earth Pressure, 235; Aslib, Special Librarianship, 418; Micro-Waves and Wave Guides, 419; Faraday, Atoms, Electrons and Engineers, 467
"Management in a Changing World," 308
Metallurgical Education Committee, 29
Physics, Theoretical, Summer School on, Bristol University, 186
Scholarships, Royal Aeronautical Society, Coventry, 294; Institution of Electrical Engineers, 335

Electricity :

Arc-Welding Equipment, Automatic, 299
Battersea Generating Stations, London Power Co., *Addendum*, 42
Cables and Equipment, Radio Frequency, 252
Cables, Paper-Insulated, 23
Carbon Electrode Brazing Unit, 195
Catering, Electrical, on Air Liners, 539
"Cintel" Photo-Electric Cells, 587
Crompton, Col., Pioneer and Prophet, 321
Degaussing Discussion, 295
Detarrers, Electro, Woodall-Duckham, 563
Electrical Engineers, Institution of, Scholarships, 335; Nominations to Council, 508
Electrical Equipment Exhibition, Bristol, 424
Electronic Devices and Road Safety, 346
Factory, Aircraft, for New Electrical Appliances, 525
Farms, Electricity Supply to, 376, 383
Furnaces, Electric (G.W.B.), 390
Generating Stations, New, England and Wales, 69
Generators and Motors, Harland, 295, 490; Electro Dynamic Construction Co., 354
Great Britain, Generating Statistics, 48, 95, 202, 525, 586; Consumption per Head, 219
Lamps, Fluorescent, 40-Watt, Auxiliary Gear for, 151
Micro-Waves and Wave Guides, Lectures, 419
Micrometer, X Ray Gauging, 74
Morar Hydro-Electric Scheme, 515
Motors (Higgs), 6
Motors, Closed Air Circuit, 561
Motor Units, Geared (English Electric Co.), 17
Neon Signs, Rotary Converters for, 370
New Zealand, Electricity Supply in, 360
Oil, Transformer, Discussion on, 298
Poles, Reinforced-Concrete, for Transmission Lines, 355
Radio Equipment, Marine, Exhibition, 418, 501
Radio, Power Equipment for (Catalogue), 316
Railways, British, Electrification, 367
Road Transport Vehicles, Electrical Equipment, 188
Selected Stations and the Grid Tariff, 523
Southampton Supply Undertaking, Jubilee, 500
"Stabilistor," Westinghouse, for Alternating-Current Supply Voltages, 564
Supply Industry, Proposed Nationalisation, 515
Supply, Municipal, Control of, 162
Telephone Development, 376
Telephone System, G.W.R., in Central Wales, 88
Transmission Lines, Reinforced-Concrete Poles for, 355
Truck, Electric, Heavy-Duty, 596
United States, Medal of Merit Award, Telecommunication Services, 209; Electricity Consumption per Head, 219; Supply Figures, 535
Vacuum Cleaners, Electric, Australian Factory, 442
Voltages of Electricity Supplies, 370
Welds, X-Ray Examination of, 56
Welding, Arc, Accessories (Murex), 127

Electricity—*continued.*

X-Ray Analysis Conference, 83
X-Ray Crystallography, Summer School for, Cambridge, 581

Engines and Boilers :

Boilers, All-Welded, in Canadian Locomotives, 216
Croydon Generating Station, Steam-Raising Plant, 509
Soot Blowers, Boiler, 123

Exhibitions :

Aeronautical Collection at Science Exhibition, Re-opening of, 345
Chemical Research, 443
Electrical Equipment, Bristol, 424
English Electric Co., War Activities, 155
German Aircraft, 127
Instruments, Precision, Coventry, 223; Scientific, Stockholm, 227
Marconi Exhibitions, 418, 501
Material-Handling Plant (Collis), 491
"Model Engineer," 586
Paris Trade Fair, 309
Prague International Fair, 345
Rubber, Metal-Bonded, 477
Shipbuilding and Marine, 1947, 570
Shipwrights' Exhibition, 1947, 368

Gas :

Dust Separator, Aerotec, 251
Gasholders, Waterless, Catalogue, 465

Gas and Oil Engines :

Bearings for Internal-Combustion Engines, 390
Diesel Engines, British, for Icelandic Trawlers, 586
Diesel Engine Research in Germany, 228
Marine Oil Engines, High-Speed, 226
Turbines, Gas, for Aircraft Propulsion, 175
Turbine, Gas, Research, 340
Turbines, Internal-Combustion, Lectures on, 159
Turko-British Contract, 31
Union-Diesel Marine Engines, 103

Guns and Explosives :

German War-Gas Stocks, Destruction of, 21

Harbours, Docks, Piers, Etc. :

Garston Docks, 605
Swansea Docks Improvements, 153

Industries and Commerce :

Acoustics, Sound Equipment (Ardente), 65
Aluminium Foil Production in South Africa, 44
Anglo-Belgian Industrial Conversations, 26
Argentina, Trade Agreement with, 269
Aslib Conferences, Industrial Information Services, 274
British Industry, German Scientists and Technicians for, 312
Canada, Lifts, Etc., Contract, 366. See *Erratum*, 394
Canadian Mica-Mining Industry, 196
Controls, Benzole, 30; Bolts, Nuts, Etc., 611; Cadmium, 604; Diamond Wire-Drawing Dies, 81; Factories and Storage Premises, 130; Iron and Steel, 16; Machine Tools, 237; Nickel, 223; Aviation Petrol, 88; Textile Bags, 144
Crompton, Col., Pioneer and Prophet, 321
Dermatitis, Industrial, Methods of Preventing, 115
Engineering Outlook, *Errata*, 216
Export Credits Guarantee Department, 59
Factories, Government, Allocation of, 275
Factory Inspectorate Personnel, 380
Factory, Nylon Yarn, Construction, 604
Films, Industrial, 562
Flour Mills, Steam and Electrically-Driven, Relative Efficiency, 546
Food Industry, Large Stainless-Steel Tubes for, 190
Gas-Turbine Research, 340
Germany, Industrial Reports on, 318
Glassworks Extensions, 237
Government Stores, Disposal of, 199
Luton Works, Fire at, 515
Machine Tools, Selling Centres, 619
Material-Handling Plant (Collis) Exhibition, 491
Metrology, Conference on, 251
Model Engineering Trade Association, 87
Motor-Car Factory, Australian, 449
Overseas Trade Department, Dissolution of, 322
Paint Manufacture, Developments in, 618
Paris Trade Fair, 309
Peat, Utilisation as Fuel, 561
Personal, 10, 34, 58, 82, 106, 130, 154, 178, 202, 226, 250, 274, 298, 322, 346, 370, 394, 418, 442, 466, 490, 514, 538, 562, 586, 610
Plant and Buildings (Whiteley-Read), 538
Production Efficiency Service, Birmingham, 587
Quality Control, Society for, 95
Refrigerating Machinery (Weir), 298
Road Rollers, Malayan Contract, 622
Rubber Mountings, Anti-Vibration, 600

Industries and Commerce—*continued.*

Supply and Aircraft Production Ministries, Regional Controllers, 44
Swansea Steel-Sheet Industry, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 443, 467, 491, 515, 563, 611
Timber, West African, Importation of, 572
Transport, Road, Spurrier Lecture, *Errata* 331
Truck, Electric, Heavy-Duty, 596
Tubes, Brass and Copper, Prices, 587
"Ulster To-day," 178
Vacuum Cleaners, Australian Factory, 442
War Activities of Industrial Firms, 141, 155, 185, 227, 352, 479, 490, 515, 534, 596
Works Management, "Management in a Changing World," 308

Institutions. See *Technical Societies* and *Associations*

Internal-Combustion Engines. See *Gas and Oil Engines*

Iron and Steel :

Beams, Broad Flange, Manufacture of (Cargo Fleet), 202
Bessemer Gold Medal Award, 347
Cleveland Basic Iron, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 515, 539, 563, 587, 611
Cleveland Iron Markets, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347 371, 395, 419, 443, 467, 515, 539, 563, 587, 611
Cleveland Manufactured Iron and Steel, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611
Essential Work Orders, Withdrawal of the Industry from, 298
Foundry Control Methods, 112
Foundrymen, British, Institute of, 571
Hematite and Low-Phosphorus Iron, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611
Journal of the Iron and Steel Institute, 227
Mains, Steel-Welded, Corrosion Cracking, 463
Middlesbrough Scrap, 35, 59, 83, 155, 179, 203, 227, 251, 275, 299, 323, 371, 395, 419, 443, 467, 515, 539, 563, 587, 611
Prices, Chart of, 83
Rails, Steel, Life of, 254
Reinforcement Steel Engineers' Association, 514
Scottish Iron and Steel Trade, 11, 35, 59, 83, 107, 131, 155, 179, 203, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611
Sheffield Iron and Steel Trade, 11, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 419, 443, 467, 491, 515, 539, 563, 587, 611
Steel Production, Film on, 583
Swansea Steel-Sheet Industry, 35, 59, 83, 107, 131, 155, 179, 203, 227, 251, 275, 299, 323, 347, 371, 395, 443, 467, 491, 515, 563, 611
Tubes, Stainless-Steel, for Food Industry, 190
Tubing, Steel, for Low-Temperature Work, 115
United Kingdom Production, 179, 618

Labour Questions. See *Trade Societies*

Literature. See LITERATURE INDEX

Locomotives. See *Railways*

Machine and Other Tools :

Bliss Presses, Manufacture in Sheffield, 383
Bolt Adaptors (Catalogue), 34
Copper-Tube Jointing Tools, 120
Dies and Tools, Cemented Tungsten Carbide ("Prolite"), 621
Dowel Pins, Precision (Jones & Shipman), 459,
Drills, Portable, Filing Attachment for, 388
Drilling-Machine Spindles, "Essex," 525
Excavating Machinery, Ruston-Bucyrus, 563
Excavators, Ransomes & Rapier, 294, 539
Flypress Operation, Counter for, 520
Grinding Machines for Railway Shops, 388
Grinding, Precision (Churchill), 581
Hobbing Machine Specifications (D. Brown) 112
Inspection Equipment, "Sigma," 562
Jig Borer, Newall (E. H. Jones), 486
Knives, Machine (Catalogue), 465
Optimeter, Horizontal, O.M.T., 547
Pliers, Heavy-Pressure Toggle, 460
Precision Instrument Exhibition, Coventry, 223
Presses, Clearing, Rockwell, Manufacture in Newcastle, 82. See *Erratum*, 106
Selling Centres, 619
Splineshaft Grinding Machines (Churchill), 171
Tools, Machine, Government Surplus Disposal, 154, 501, 608
Workshop Precision Grinding, Russian Edition, Churchill Machine Tool Co., 581

Marine Engineering. See *Engines and Boilers; Ships and Shipbuilding*

Mining and Metallurgy:

Aluminium Alloys, (Alar, Ltd.), 55, 587
Aluminium-Foil Production, South Africa, 44
Aluminium Laboratories, Ltd., Resumption of Research Work, 227
Aluminium, Standard Specifications for, 65
Burma, Lower, Tin and Wolfram Mining, 226
Canadian Mica-Mining Industry, 196
Cooler, Oil, Heo..an Type, 20
Copper-Tube Jointing, Simple Method, 120
Foundry Equipment (August's, Ltd.), 482
Foundrymen, British, Institute of, 571
Furnace, Box-Type, for Heat Treatment, 296
Furnaces, Electric (G.W.B.), 390
Gold Medal Award, Institution of Mining and Metallurgy, 489
Light-Metals Industry, United Kingdom, 569
Metallurgical Education Committee, 29
Rhodesia, Southern, Chromium-Ore Mining, 100
Thermostats, Adjustable, Heat-Treatment, 269
Tubing, Alloy-Steel, for Low-Temperature Work, 115

Miscellaneous:

Acoustics, Sound Equipment (Ardente), 65
Anglo-Belgian Industrial Conversations, 26
Argentina, Trade Agreement with, 269
Aslib Conferences: Planning, 274; Industrial Information, 274; Special Librarianship Lectures, 418
Belt Adaptors (Lindsay), 34
Calendars, 68, 76, 114, 298, 486
Catalogues, 23, 34, 153, 167, 316, 354, 370, 388, 465, 537
Cooler, Heenan, New Type, 20
Crompton, Col., Pioneer and Prophet, 321
District Heating, 391
Dust Separator, "Aerotec" (Prat-Daniel), 251
"Engineering Outlook," *Errata*, 216
Factory Inspectorate Personnel, 380
Fans, "Aeroto," 202
Ferry Services Committee, 563
Films, Industrial, Sound, 562
Filters, Air (Catalogue), 167
Filters, Committee for Standardising, 224
Flour Mills, Steam and Electrically-Driven, Relative Efficiency, 546
Germany, Industrial, Reports on, 318
Glassworks Extensions, 237
Grate, Domestic, Radiator-Heating, 211
Health Congress, Blackpool, 506
Industry, British, German Scientists and Technicians for, 312
Kelvin, Lord, Film of Career, 501
Keynes, Lord, Nomination as F.R.S., 532
Knives, Machine (Heathcote), 465
Laboratory Apparatus, Publications on, 95
Luton Works, Fire at, 515
Mains, Welded Steel, Corrosion Cracking of, 463
Material-Handling Plant, Exhibition (Collis), 491
Metrology, Conference on, 251
Observatory, Greenwich, Transfer to Herstmonceux, 414
Oil Coolers (Catalogue), 167
Oil, Transformer, Discussion on, 298
Paint Manufacture, Developments in, 618
Peat, Utilisation as Fuel, 561
Personal, 10, 34, 58, 82, 106, 130, 154, 178, 202, 226, 250, 274, 298, 322, 346, 370, 394, 418, 442, 466, 490, 514, 538, 562, 586, 610
Refrigerating Machinery (Weir), 298
Road Safety and Electronic Devices, 346
Rubber Mounting, Anti-Vibration, 600
Soil Mechanics, Practical Development, *Errata*, 346
Stores, Government, Disposal of, 100
Tar Confederation, British, 167
Timber, West African, Importation of, 572
Trasenster Medal, Award to Sir E. Appleton, 346
Truck, Electric, Heavy-Duty, 596
"Ulster To-day," 178
Vacuum Cleaners, Australian Factory for, 442
War Activities of Industrial Firms, 141, 155, 185, 227, 352, 479, 490, 515, 534, 596

Motor Cars, Etc.:

Australian Motor-Car Factory, 449
Garage Equipment, 346
Motor Agents' Association, Luncheon, 33
Road Transport, Commercial, Spurrier Lecture, *Errata*, 331
Rootes Securities, Ltd., Progress of, Film, 412
Tractor, "Atom," Semi-Crawler, *Erratum*, 35
Vehicle Repair Shops and Essential Works Orders, 178

Naval:

Anti-Submarine School, 138
Degaussing Discussion, 295
Oil-Engine Operation, 226

Obituary. See GENERAL INDEX

Oil. See *Miscellaneous*

Physics and Chemistry:

Atoms, Electrons and Engineers, Faraday Lecture on, 467
Atomic Energy, British Association of Chemists' Lecture, 442

Physics and Chemistry—*continued.*

Chemical Research Exhibition, 443
Chemical Society, Centenary, 610
Crystallography, X-Ray, Summer School for, Cambridge, 581
Engineering, Chemical, Bursaries, 611
Kelvin, Lord, Film of Career, 501
Laboratory Apparatus, Publications on, 95
Micro-Waves and Wave Guides, Lectures, 419
Micrometer X-Ray Gauging for Sheet or Tube Material, 74
Spectroscopy, Industrial, Conference on, 539
Summer School on Theoretical Physics, 186
Transformer Oil, Discussion on, 298
X-Ray Analysis, Conference, 83

Power Plants. See *Electricity*

Power Transmission:

Gearboxes, Reduction (Catalogue), 537
Motor and Reduction Gear Unit (D. Brown), 460
Radicon Reducing Gears (D. Brown), 171
Roller Bearings, Tapered, for Mining Machinery, 508

Railways and Locomotives:

Canadian Locomotives in France, 131; Locomotives with All-Welded Boilers, 216
Dutch Railways, War Damage to, 537
Electrification of British Railways, 367
Great Western Railway, Telephone System in Central Wales, 88; Track Renewal Programme, 199; Oil-Burning Passenger Locomotive, 610
Grinding Machines for Railway Workshops, 388
Lamps, Signal, Tests, 462
London Midland and Scottish Railway, Herbert Jackson Prize, 175; Signal-Lamp Tests, 462
London and North Eastern Railway, Rebuilt 2-6-0 Locomotive, 33; Dunfermline Locomotive Depot, 297
Model Railways, Trade Association Standards, 87
Rails, Steel, Life of, 254
Rhine Bridge, Baerle, Re-opened to Traffic, 246
Royal Train for South Africa, 586
South African Railway Earnings, 334, 587
Swedish Railway Electrification, 4
Wagon Bodies, Contracts for Home Railways, 250
Waverley Station, Edinburgh, Roof Restoration, 237

Ships and Shipbuilding:

Cross-Channel Ships, New, 380
Degaussing Discussion, 295
Exhibition, Shipbuilding and Marine, 1947, 570
Lloyd's Register and British Corporation, Breakdown of Proposed Fusion, 414
Lloyd's Register, Special Surveys, 88
Marconi Exhibitions, Marine Equipment, 418, 501
Refrigerating Machinery (Weir), 298
Scottish Industry, 11, 83, 299, 347, 395
Shipbuilding Conference, Mission to South America, 106
Shipwrights' Exhibition, 1947, 368
Stabiliser, Ship, Retractable Fin (Denny), 132
Trawlers, Icelandic, British Diesel Engines for, 586

Societies. See *Technical* and *Trade*

Technical Societies:

Aeronautical Society, Royal, 120, 294, 395, 456
Arts, Royal Society of, 58, 264
Automobile Engineers, Institution of, 538
Chemical Engineers, Institution of, 103, 254
Civil Engineers, Institution of, Birmingham Association, 151
Electrical Engineers, Institution of, Installation Group, 232; Transmission Section, 466
Engineers and Shipbuilders in Scotland, Institution of, 618
Fuel Luncheon Club, 26, 419, 546
Illuminating Engineering Society, 151
Industrial Administration, Institute of, 308
Iron and Steel Institute, 211, 227
Locomotive Engineers, Institution of, 250
Manchester Association of Engineers, 82
Marine Engineers, Institute of, 260
Mausdsay Society, 419
Mechanical Engineers, Institution of, 159
Metals, Institute of, 65
Naval Architects, Institution of, 131, 618
North East Coast Institution of Engineers and Shipbuilders, 449
North of England Institution of Mining and Mechanical Engineers, 103
Permanent Way Institution, 254
Petroleum, Institute of, 298
Physics, Institute of, 68, 114, 186, 539
Production Engineers, Institution of, 394
Royal Society, 251, 532
Sanitary Institute, Royal, 506
Sheet and Strip Metal Users' Technical Association, 562
Statistical Society, Royal, 58
Surveyors, Chartered, Royal Institution of, 522
Transport, Institute of, 88, 309, 547
Water Engineers, Institution of, 394
Welding, Institute of, 48, 56, 328

Telegraphy. See *Electricity*

Telephony. See *Electricity*

Tools. See *Machine and Other Tools*

Trade. See *Coal; Industries; Iron and Steel; Ships and Shipbuilding*

Trade Societies, Etc.:

Absenteeism, 212
Agricultural Industry, Wages, 44, 164, 187, 212, 428, 452, 475, 620; Retention of Youths on Farms, 164
Arbitration, Compulsory, Abolition Question, 116
Belgium, Registration for Employment, 620
Brazil, Unionism and Government Employees, Decree, 428
Catering Wages Commission, Report, 356
Chemical Industry, Wages, 356, 380, 428
Clerical, etc., Workers' Union, Wage Fixing and State Intrusion, 404
Cost of Living. See *Living, Cost of*
Cotton Industry, Wages, 20, 187, 380, 524. Scarcity of Operatives, 260. Output and Employment Figures, 356
Delco-Remy & Hyatt, Ltd., Introduction of Five-Day Week, 524
Disabled Persons (Employment) Act, Quota Scheme, 20
Distributive and Allied Workers, Amalgamation, 475
Dock Industry, Port Employers and Unions, Wage Agreement, 44; Casual Labour Question, 620; Entrants on Register, 620
Electrical Industry, Electricity Supply, 20, 187; Trade Unions and Dilution, 140, 452; Union Membership and Service-Trained Personnel, 308; Electrical Contracting, Wages, 332
Electrical Trade Unions and Dilution, 140, 452
Electricity Supply, Manual Workers' Wages, 20, 187
Employment and Unemployment Statistics, 92, 212, 283, 308, 380, 452, 475, 500, 572
Engineering Industry, Release from Provisions of Essential Work Orders, 140; Joint Trade Reconstruction Plans, 187; Clerical Staffs Section, 380; Joint Proposals for Wages, etc., of Women Members, 404, 452
Engineering and Shipbuilding Draughtsmen, Hours of Work and Pay Charter, 404
Engineering Union, Amalgamated, New Wage Structure, 44, 92, 500; Term "Engineer Officer," 92; Membership and Benefit Data, 92, 187, 283, 380, 500, 572; Production and Exports Policy, 187; Plastics Workers' Wages, 283; Man Power Budget, 283; True Form of Leadership for Labour Movement, 308; Engineering Unions, Amalgamation Question, 356, 500; Election of General Secretary, 380; Dual Membership with National Mineworkers' Union, 404; Apprentices' Conscription Views, 500; Women Apprentices Question, 500
Exports, Need for, 187, 572; Increase of, 595
Factory Legislation, Proposed Overhaul, 595
Federation, General, of Trade Unions, on Clear Thinking, 547; Motion and Time Study Investigation, 547; Need for Increased Exports, 572; Elimination of Non-Unionism, 595
Ford Motor Co., Ltd., Negotiating Machinery and Revised Wage Schedule Agreement with Employees, 452, 475
Foundry Workers, National Union of, 332
France, Holidays-with-Pay Legislation, 308
Gas Industry, Wages, 20; Working Conditions, 20
Hours of Work, Holidays in Food Trade, 44; Forty-Hour Week, 92, 332, 356, 380, 524; Overtime and Nightshift Case, 212; France, Holidays with Pay, 308; Russia, Restoration of Regular Holidays, 308; Hosiery Trade Hours, 356; Chemical Industry, 380, 428; Miners' Holiday-Pay Rates, 380; Engineering and Shipbuilding Draughtsmen, Proposed Charter, 404; Vauxhall Motors, Ltd., Five-Day Week, 452; Motor Vehicle, etc., Trade, Shorter Working Week, 475; Delco-Remy and Hyatt, Ltd., Five-Day Week, 524; Electricity Supply Industry, 524; Civil Engineering, Paid Statutory Holidays, 620; Agriculture, 620
Income Tax, Overtime Earnings, 380; P.A.Y.E., Re-examination of System, 380
India, Factories Act, Provisions for Holidays with Pay, 428; Strikes, 620
Industrial Court, New President, 20
Industry, General, Employers' Readiness to Co-operate in Promoting Production, 260; Production Increases, 524; Nationalisation of Industries, 595
Iron and Steel Industry, Development Planning for, 20, 283; United States Steel Strike, 92; Metal Scrap Industry, Minimum Wage Figures, 595; Nationalisation, 620
Joint Trades Movement, Engineering, New Wage Structure, A.E.U. Report, 44, 500; Wages and Other Claims, 116, 164, 308, 332, 356; Plans for Reconstruction of Engineering Industry, 187, 283
Labour and National Service, Ministry of, Reports, 68, 92, 164, 260, 308, 356, 572; Average Earnings and Hours of Manual Workers, 260; Statistics of Employment and Unemployment, 92, 212, 283, 308, 380, 452, 475, 500, 572

Trade Societies, Etc.—*continued.*

Labour Notes, 20, 44, 68, 92, 116, 140, 164 187, 212, 236, 260, 283, 308, 332, 356, 380, 404, 428, 452, 475, 500, 524, 547, 572, 595, 620
Labour Party, Parliamentary, and Internal Criticism, 212; Conference, 595
Living, Cost of, 20, 524, 572, 620
Local Authorities, Employees' Wages and Conditions Scheme, 140; Rate-Equalising Proposals, 595
Man-Hour Production, 140, 236
"Man and Metal," Iron and Steel Industry and Development Planning, 20, 283; Parliamentary Labour Party and Internal Criticism, 212; Wages Policy, 404
Man-Power Allocation, 236
Man-Power Budget, 283
Marine Engineers' Association, Term "Engineer Officer," 92
Mining Industry, National Union Holiday Claim, 20, 187; Coal Position Statement, 20; Coal Shortage, Menace to Industry, 68, 308; Twelve-Point Charter to Attract Recruits, 68, 187, 212, 332; Mining Association Plan for Recruitment, Education and Training, 68; Minister and Unofficial Strike Action, 92; Scheme for Supplementary Benefits under Insurance Bill, 140; Nationalisation Bill Amendments, 212; Coal Output, 212; Absenteeism, 212, 380; Miners, Employment Figures, 308, 380; Holiday Pay Rates, 380; Mineworkers' Union, Dual Membership with A.E.U., 404; Mineworkers' National Wage Policy, 547; Piecework, Suggested Elimination, 547; Unofficial Strikes and Impeded Production, 547; Nationalisation, 595
Motor Vehicle Retail, etc., Trade, Wage Increases and Hours of Work, 475
Omnibus Workers' Wages, etc., 44, 164, 187, 236, 404, 428, 475, 500
P.A.Y.E. See *Income Tax*
Patternmakers' Association, United, New Wage Structure for Engineering Industry, 44; Membership and Benefit Data, 44, 116, 236; Skill *v.* Mechanised Output in Foundry Industry, 116; Wages, 116, 236, 524; Dilution as Affecting Electrical Trades Union, 140; Metal Patternmaking Question, 236; Wages in Foundry Trade, 332; "York Memo." and Avoidance of Disputes, 404; Wages, Effect of Mechanisation on, 547
Plastics Workers' Wages, 283
Production and Export Policy Question, 572
Railways, Railway Clerks and Nationalisation, 524
Russia, Demobilised Men, Resettlement Conditions, 236; Fourth Five-Year Plan, Preparation Proposals, 428
Schoolmasters, National Association of, Opposition to Equal Pay for Men and Women Teachers, 428
Shipbuilding Industry, Wages Anomaly, 332; Wage Agreement, 356; Forty-Hour Week, 524; Avoiding Disputes, 524
Shop Assistants' Union, Wage Demands, 164; Early Closing, 332
Strikes, Minister on Unofficial Strike Action, 92; Illegality of, 236; Strikes and Export Drive, 283; Unofficial, Results of, 547; in British India, 620
Strike Statistics, 68, 164, 260, 283, 356, 475, 572
Time and Motion Study, Investigations, 547
Trade Disputes, etc., Act, 116, 187, 236, 356
Trade Union Congress, 40-Hour Week Problem, Proposed Legislation, 92, 332, 380; on Abolition of Compulsory Arbitration, 116; on Promotion of Industrial Production, 260; on National Wages Policy Question, 332; Election of Officers, 404
Trade Unionists, Opposition to Employment of Non-Unionists, 428
Transport and General Workers' Union, Proposed Road Haulage Nationalisation, 283; Planning of Transport, 283; Wages, 283; Chemical Section Wages, 380; International Federation of Transport Workers, Zürich Congress, 572
Unemployment Allowances, 212
Unemployment Fund, 140, 356
Unemployment Insurance Committee, Annual Report, 356
United States Steelworks, Employees' Strike, 92; Labour Troubles, Wage Basis of, 116; Employment Figures, 140; Price Changes, 140; Workers' Income Security Schemes, 500
Wages, Fluctuation of, 68, 164, 260
Wages, General Engineering Industry, New Wage Structure, 44; Mr. J. R. Scott on New Wage Structure, 92; State Regulation, 92, 236, 404; Wage Rates, War, General Level, 164; National Wages Policy Question, 332, 404; Current Year Increases, 356, 452; Increases in Various Industries, 547
Women Workers, Equal Pay Question, 404, 428; Engineering Industry and Wage Structure in Relation to Women, 452, 500, 595; Apprenticeship of Women in Engineering Industry, 500

Universities. See *Education*

Vehicles. See *Motor Cars*

Warships. See *Naval*

LONDON:—Printed for the Proprietors by HARRISON & SONS, LTD., at the BEDFORD PRESS, 20 & 21, Bedfordbury, in the Parish of St. Martin-in-the-Fields, and Published by JOHN ALEXANDER DIXON, at the Offices of "ENGINEERING," 35 & 36, Bedford Street, in the Parish of St. Paul, Covent Garden, both in the County of London.—Friday, August 30, 1946.